



HEALTH IMAGING

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ADJUSTMENTS AND REPLACEMENTS
for the
Kodak X-Omat 3000 RA INTEGRATED PROCESSOR
Service Code: 3466
in a
Kodak X-Omat MULTILOADER 7000
Service Code: 3444

 **Kodak Home Page
on Internet**

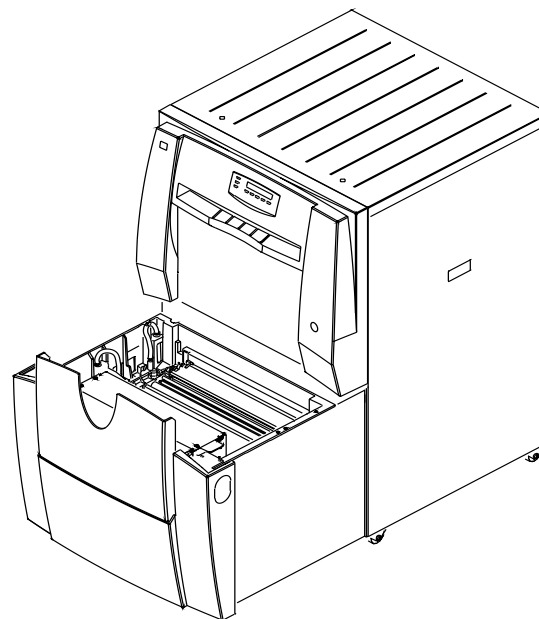
 **Tech Bulletin
on Intranet**

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Important

Qualified personnel must service this equipment.



PLEASE NOTE

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This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use caution to prevent damage during all service procedures.

**Warning**

To avoid hazardous conditions, keep floors and floor coverings around your PROCESSOR and associated drains clean and dry at all times. Any accumulation of fluids from mixing tanks, drain lines, etc., should be cleaned up immediately. In the event of an accumulation of liquid due to backup, overflow, or other malfunctions of the drain associated with your PROCESSOR, call a plumber or other contractor to correct any problem with the drain. Kodak accepts no responsibility or liability whatsoever for the serviceability of any drain connected to or associated with a PROCESSOR. Such drains are the sole responsibility of the customer.

Radio Interference**Caution**

This equipment generates, uses, and can radiate radio-frequency energy. If the equipment is not installed and used according to the instructions, it might cause interference to radio communications. The equipment has been tested and found to comply with the limits for a *Class A* computing device pursuant to Subpart J of Part 15 of the FCC Rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at the user's own expense, will be required to take whatever measures might be required to correct the interference.

This digital apparatus does not exceed the *Class A* limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

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Section 1: Service Overview

Special Tools

Tool No.	Description
TL-2372	THICKNESS GAUGE
-----	PUNCH
TL-2170	CLAMPS (Order 2)
TL-4430	EXTRACTION TOOL
TL-3346	GROUNDING KIT
TL-4391	INTERFACE CABLE for ESD protection
TL-2324	LITHIUM BALL and ROLLER BEARING GREASE
TL-1926	MAGNETIC POWER WARNING SIGN
-----	LAPTOP COMPUTER*
1C8022	SEALANT
TL-2324	THERMAL GREASE
918947	SPLASH GUARD
459432	DRIP TRAY
TL-4391	DATA CABLE
-----	Clean, flat surface



Important

Requirements for the LAPTOP COMPUTER:

- IBM compatible
- SERIAL COMMUNICATIONS PORT configured as COM 1 - See the User Manual for the LAPTOP COMPUTER
- Complete MS-DOS installed
- 3.5 in. DISKETTE DRIVE 1.44 MB or CD-ROM DRIVE
- 1 MB RAM
- 20 MB HARD DISK
- SERIAL PORT RS-232 C
- AC ADAPTER

Electrostatic Discharge

Overview

ESD--electrostatic discharge--is a primary source of:

- product downtime
- lost productivity
- costly repairs

While one cannot feel a static charge of less than 3,500 volts, as few as 30 volts can damage or destroy essential components in electronic equipment.

Preventive Measures

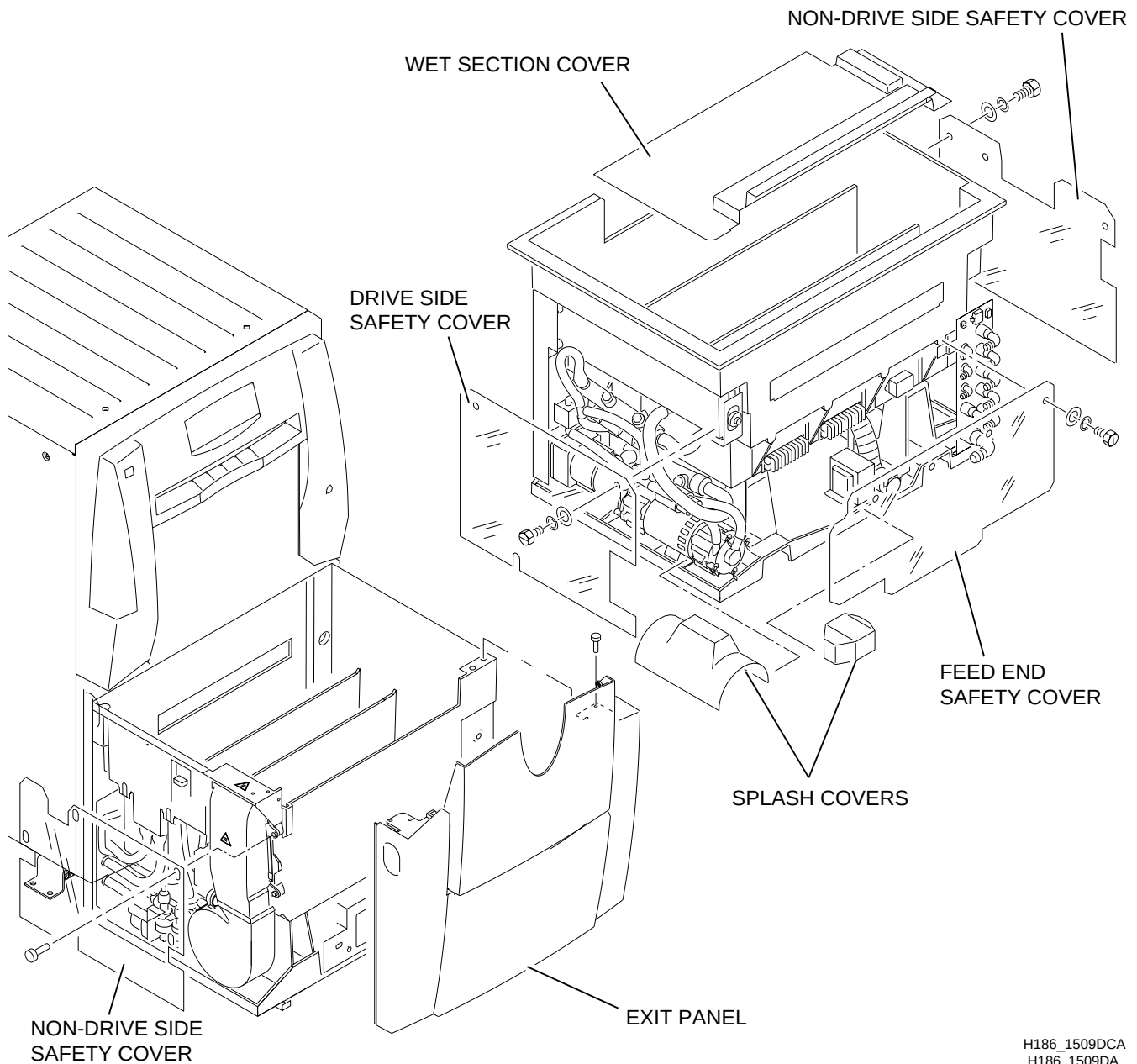
- Always look for an ESD warning label before doing any procedure involving static-sensitive components such as CIRCUIT BOARDS. All static-sensitive components are marked with bright graphic labels, which frequently include instructions. Follow all label instructions.
- Wear a GROUNDING STRAP when handling static-sensitive components. Always make certain that the CLIP remains attached to a properly grounded, unpainted, clean surface.
- Repair static-sensitive components at an ESD-protected work station or use a PORTABLE GROUNDING MAT. For help in setting up an ESD-protected work station, contact your *Kodak* representative.
- When moving static-sensitive components from one area to another, insert and transport the components in ESD-protective packaging.

Identifying and Removing the COVERS and PANELS



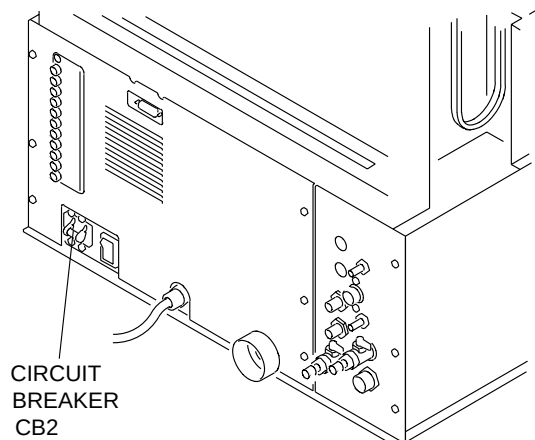
Warning

Before energizing the PROCESSOR, make sure all COVERS and PANELS are in the correct position and properly fastened.



H186_1509DCA
H186_1509DA

De-energizing and Energizing the PROCESSOR



H104_0390ACA
H104_0390AC



Warning

- Dangerous Voltage
- For most of the service procedures, the PROCESSOR must be de-energized.

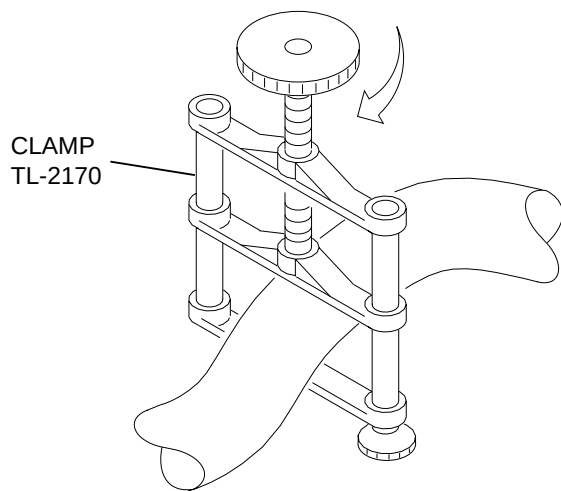
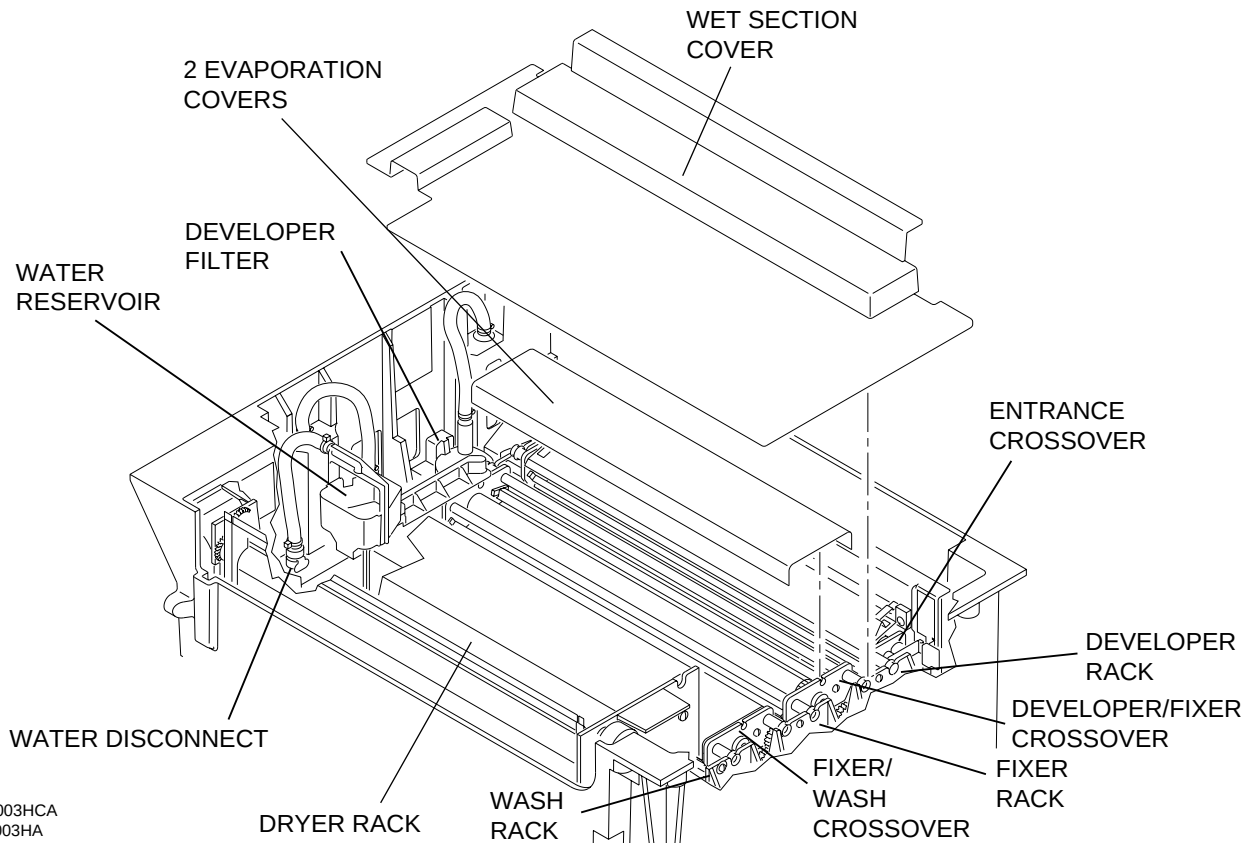
To de-energize the PROCESSOR:

1. Move CIRCUIT BREAKER CB2 to the "O" position.
2. Move the wall-mounted CIRCUIT BREAKER to the "OFF" position.
3. Lock the wall-mounted CIRCUIT BREAKER.
4. Place a MAGNETIC POWER WARNING SIGN TL-1926 on the wall-mounted CIRCUIT BREAKER.

To energize the PROCESSOR:

1. Unlock the wall-mounted CIRCUIT BREAKER.
2. Move the wall-mounted CIRCUIT BREAKER to the "ON" position.
3. Move CIRCUIT BREAKER CB2 on the MULTILOADER 7000 to the "I" position.
4. Remove the MAGNETIC POWER WARNING SIGN from the CIRCUIT BREAKER.

Removing the RACKS with Solutions in the TANKS



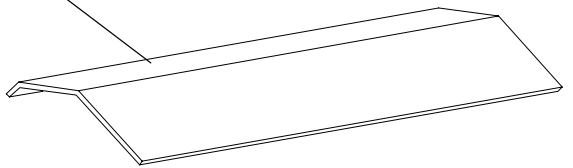
H104_0587ACA
H104_0587AA



Caution

- Be careful not to cause spills or contaminate the solutions.
- When you disconnect plumbing connections, use CLAMP TL-2170 to stop the flow of solution in the HOSES. If you use CLAMP TL-2170, in most cases, you do not need to drain the TANK.

SPLASH
GUARD



DRIP
TRAY

H108_0035ACC
H108_0035AA

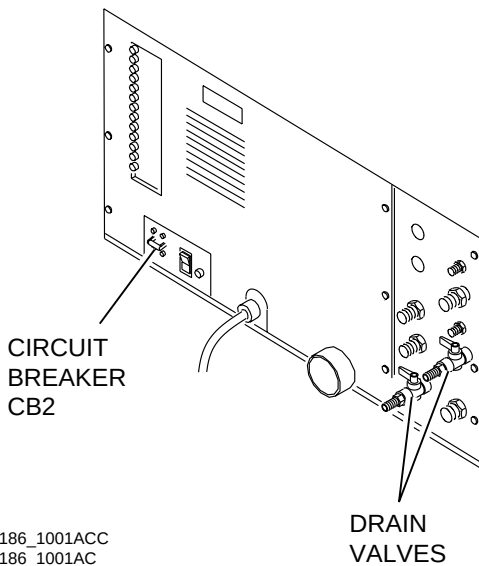


Caution

When you remove or install the RACKS:

- Do not allow the fixer solution to contaminate the developer solution.
- When you remove the FIXER RACK, install the SPLASH GUARD between the DEVELOPER TANK and the FIXER TANK.
- Use DRIP TRAYS under the DEVELOPER and FIXER RACKS.
- When you remove the RACKS, lift them out of the PROCESSOR slowly and tilt them so that the processing solution drains into the TANK.
- When you install the RACKS, insert them in the TANK slowly to prevent the processing solutions from splashing over the TANK.

Draining and Filling the TANKS



To drain the TANKS:

1. De-energize the PROCESSOR.
2. Open the DEVELOPER and FIXER DRAIN VALVES.

To fill the TANKS:

1. Close the DRAIN VALVES and push the PROCESSOR into the MULTILoader 7000.
2. Energize the PROCESSOR.
3. From the Main Menu on the DISPLAY PANEL, select "PROC".
4. Press [GO TO SETUP].
5. When the prompt for the access code displays, type: **4213**
6. Press:
 - [OPTIONS]
 - [REPLEN MODE]
 - [TANK FILL]



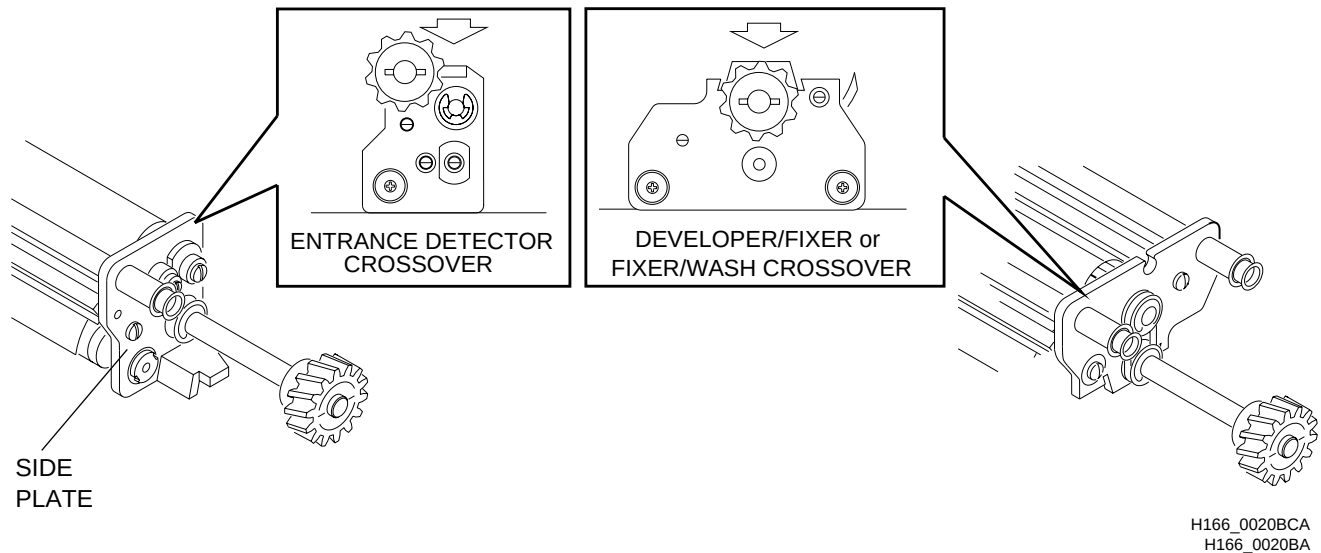
Note

See ["Draining the Tanks."](#) and ["Filling the Processor Tanks."](#) in the User Guide for the Multiloader 7000, Part No. 7E6174..

Section 2: Adjustments

RACK: Squareness

Adjustment Specification



Purpose: Reduce or eliminate artifacts on film, and film transport problems.

Specification: The SIDEPLATES of the RACK must touch the flat surface evenly.

Special Tools:

- SPLASH GUARD Part no. 918947
- DRIP TRAY Part no. 459432
- Clean, flat surface

Prerequisites: None

Postrequisites: None

To Check:



Warning

Dangerous Voltage

- [1] De-energize the PROCESSOR.
- [2] Remove the CROSSOVERS, and place on a smooth, flat, surface.

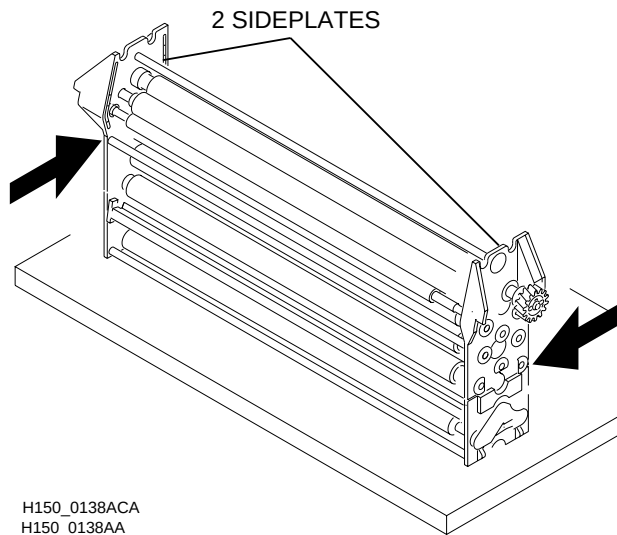
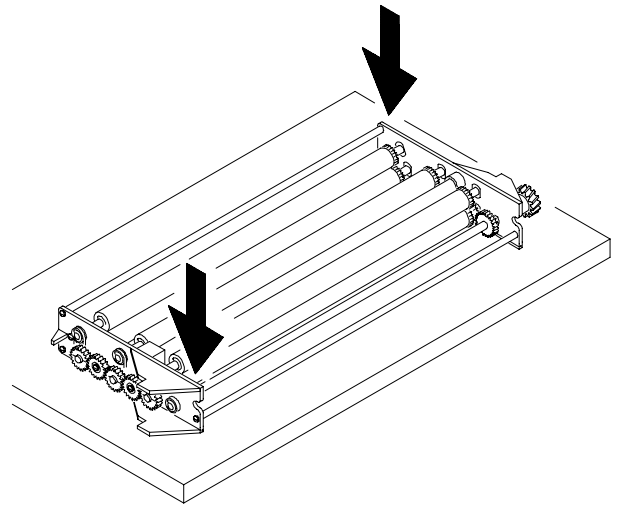


Important

To prevent the contamination of the processing solutions, use the SPLASH GUARD and DRIP TRAY when you remove the RACK from the PROCESSOR. [See "Removing the RACKS with Solutions in the TANKS" on Page 8.](#)

- [3] Install the SPLASH GUARD on the PROCESSOR.
- [4] Remove the RACK from the PROCESSOR, using the DRIP TRAY.
- [5] Place the RACK on a smooth, flat surface.
- [6] Check that the specification is correct.

Specification: The SIDEPLATES of the RACK must touch the flat surface evenly.

To Adjust:**DEVELOPER, FIXER and DRYER RACK****WASH RACK**

H104_0139AA

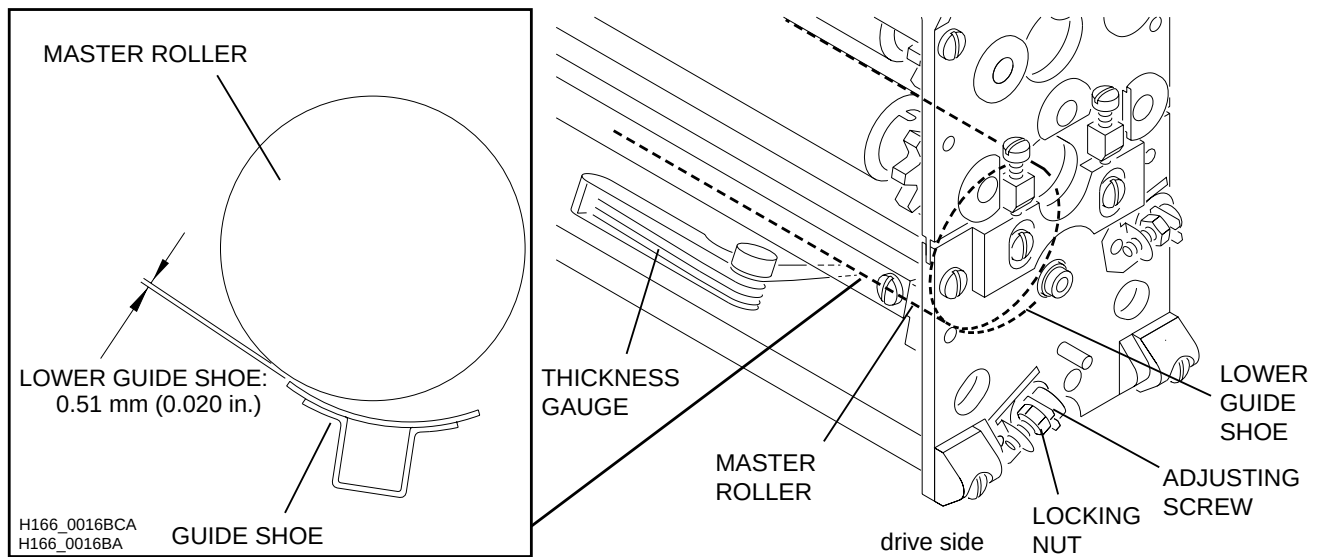
[1] Apply pressure to the RACK. See the graphic.

[2] Check that the specification is correct.

Specification: The SIDEPLATES of the RACK must touch the flat surface evenly.

LOWER GUIDE SHOE: DEVELOPER RACK

Adjustment Specification



Purpose: Reduce or eliminate artifacts on film, and film transport problems

Specification: The distance between the LOWER GUIDE SHOE and the MASTER ROLLER is 0.51 mm (0.020 in.).

Special Tools:

- SPLASH GUARD Part no. 918947
- DRIP TRAY Part no. 459432
- THICKNESS GAUGE TL-2372

Prerequisites: Check that the RACK is square. [See "RACK: Squareness" on Page 10.](#)

Postrequisites: Check that the RACK is square. [See "RACK: Squareness" on Page 10.](#)

To Check:



Warning

Dangerous Voltage

[1] De-energize the PROCESSOR.

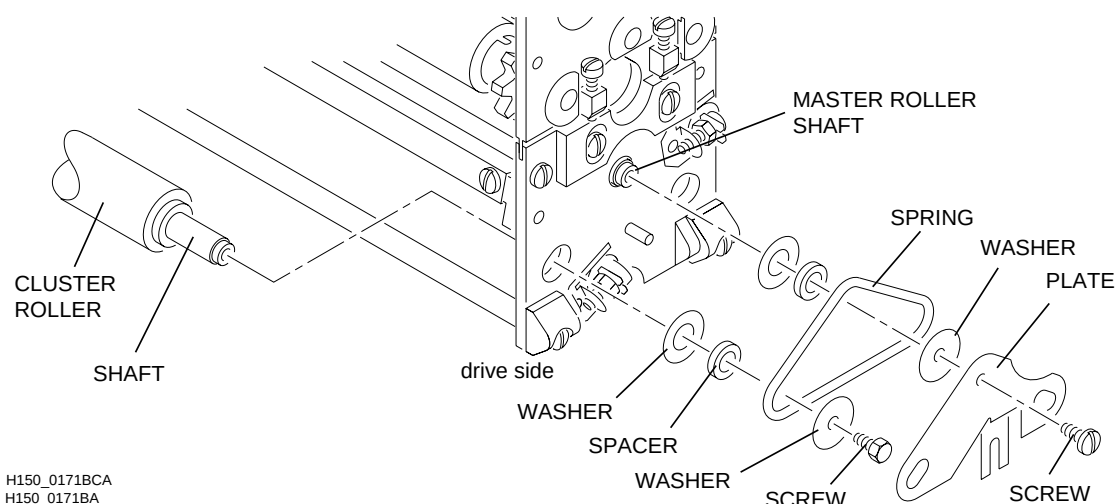


Important

To prevent the contamination of the processing solutions, use the SPLASH GUARD and DRIP TRAY when you remove the RACK from the PROCESSOR. [See "Removing the RACKS with Solutions in the TANKS" on Page 8.](#)

[2] Install the SPLASH GUARD on the PROCESSOR.

[3] Remove the DEVELOPER RACK from the PROCESSOR, using the DRIP TRAY.



- [4] Remove the SPRING from each end of the DEVELOPER RACK.
- [5] Remove the following parts from the drive side of the MASTER ROLLER SHAFT:
 - SCREW
 - PLATE
 - WASHER
- [6] Install the SCREW and WASHER from [Step 5](#) to hold the MASTER ROLLER SHAFT in position.
- [7] Remove the following parts from either end of the CLUSTER ROLLER:
 - SCREW
 - 2 WASHERS
 - SPACER
- [8] Remove the CLUSTER ROLLER from the DEVELOPER RACK.
- [9] Remove the second CLUSTER ROLLER.
- [10] Use THICKNESS GAUGE TL-2372 to check that the specification is correct.

Specification: The distance between the LOWER GUIDE SHOE and the MASTER ROLLER is 0.51 mm (0.020 in.).

To Adjust:

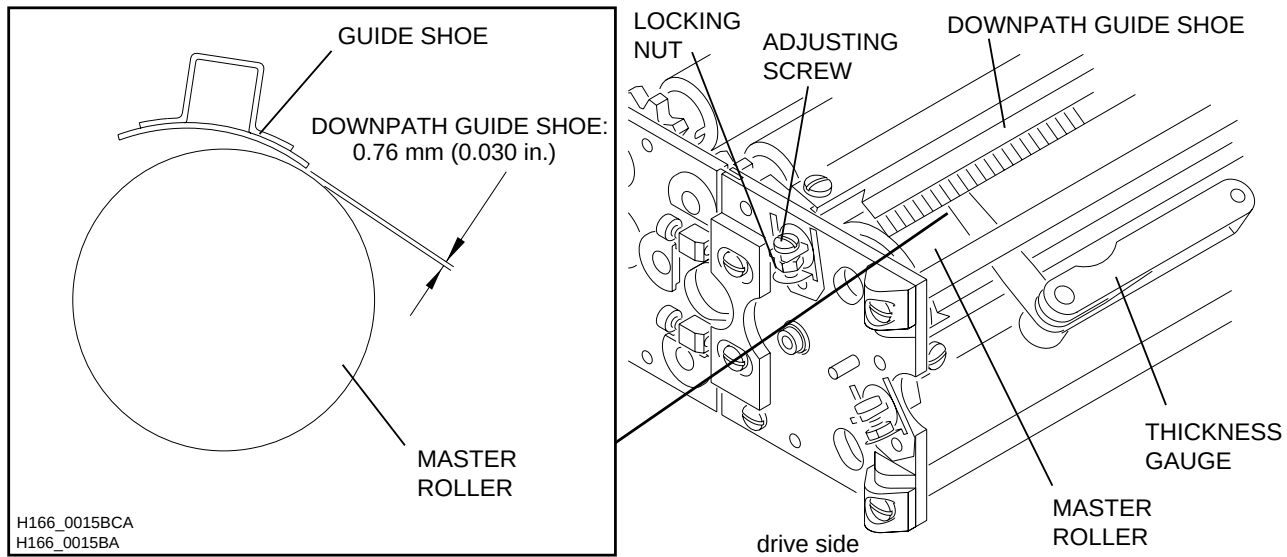
- [1] Loosen the LOCKING NUT on the ADJUSTING SCREW.
- [2] Rotate the ADJUSTING SCREW until the distance between the LOWER GUIDE SHOE and the MASTER ROLLER is 0.51 mm (0.020 in.).
- [3] Hold the ADJUSTING SCREW in position and tighten the LOCKING NUT.
- [4] Do [Step 1](#) - [Step 3](#) for the nondrive side of the LOWER GUIDE SHOE.
- [5] Use THICKNESS GAUGE TL-2372 to check that the specification is correct.

Specification: The distance between the LOWER GUIDE SHOE and the MASTER ROLLER is 0.51 mm (0.020 in.).

- [6] Do [Step 4](#) - [Step 9](#) of the "To Check" procedure to assemble the DEVELOPER RACK.

DOWNPATH GUIDE SHOE: DEVELOPER RACK

Adjustment Specification



Purpose: Reduce or eliminate artifacts on film, and film transport problems.

Specification: The distance between the DOWNPATH GUIDE SHOE and the MASTER ROLLER is 0.76 mm (0.030 in.).

Special Tools:

- SPLASH GUARD Part no. 918947
- DRIP TRAY Part no. 459432
- THICKNESS GAUGE TL-2372

Prerequisites: Check that the RACK is square. [See "RACK: Squareness" on Page 10.](#)

Postrequisites: Check that the RACK is square. [See "RACK: Squareness" on Page 10.](#)

To Check:



Warning

Dangerous Voltage

[1] De-energize the PROCESSOR.

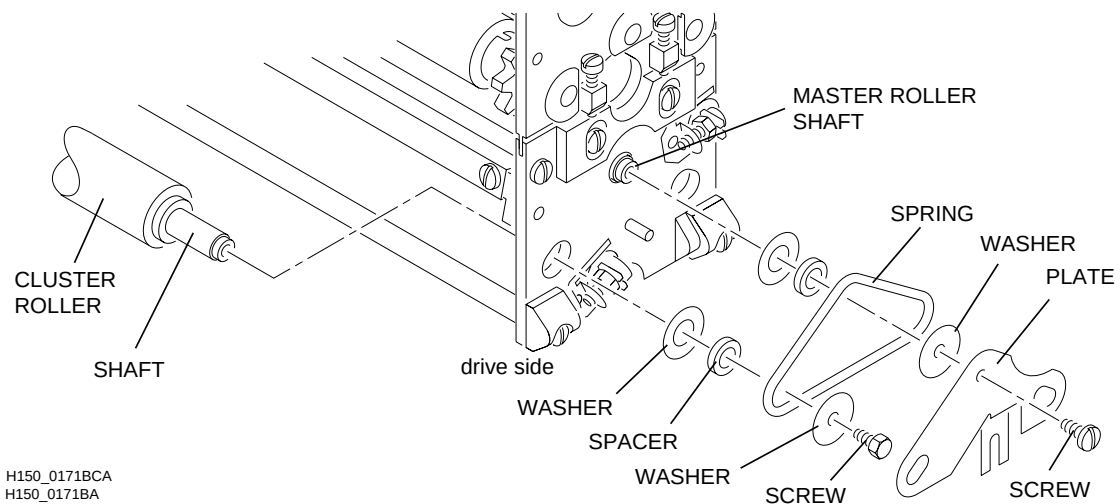


Important

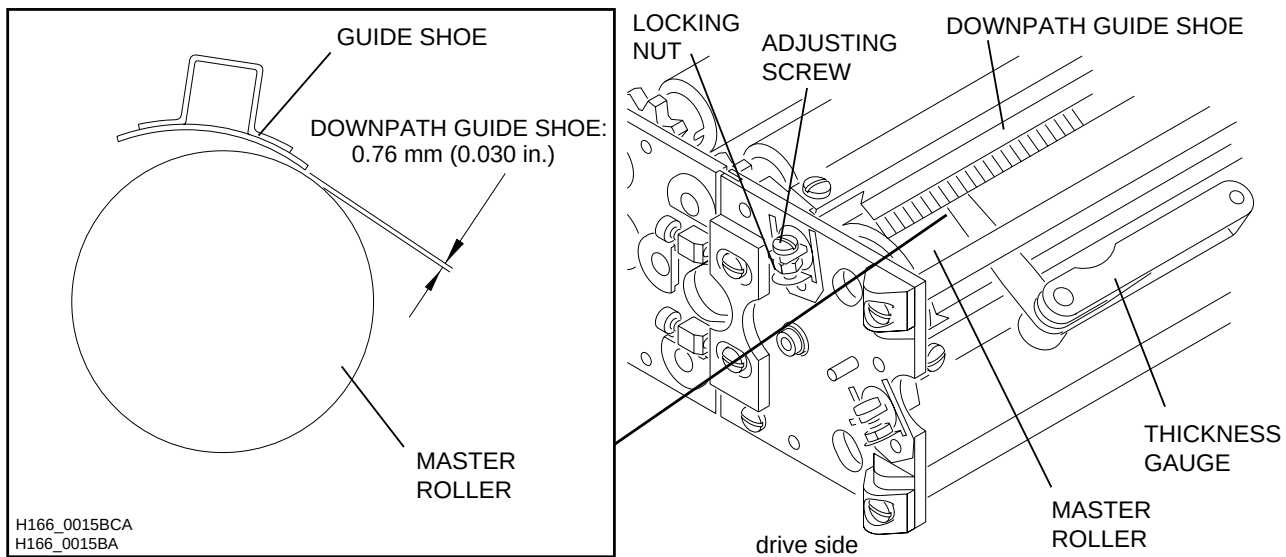
To prevent the contamination of the processing solutions, use the SPLASH GUARD and DRIP TRAY when you remove the RACK from the PROCESSOR. [See "Removing the RACKS with Solutions in the TANKS" on Page 8.](#)

[2] Install the SPLASH GUARD on the PROCESSOR.

[3] Remove the DEVELOPER RACK from the PROCESSOR, using the DRIP TRAY.



- [4] Remove the SPRING from each end of the DEVELOPER RACK.
- [5] Remove the following parts from the drive side of the MASTER ROLLER SHAFT:
 - SCREW
 - PLATE
 - WASHER
- [6] Install the SCREW and WASHER from [Step 5](#) to hold the MASTER ROLLER SHAFT in position.
- [7] Remove the following parts from either end of the CLUSTER ROLLER:
 - SCREW
 - 2 WASHERS
 - SPACER
- [8] Remove the CLUSTER ROLLER from the DEVELOPER RACK.
- [9] Remove the second CLUSTER ROLLER.



[10] Insert the THICKNESS GAUGE TL-2372 between the DOWNPATH GUIDE SHOE and the MASTER ROLLER as close to the end of the DOWNPATH GUIDE SHOE as possible.

[11] Use THICKNESS GAUGE TL-2372 to check that the specification is correct.

Specification: The distance between the DOWNPATH GUIDE SHOE and the MASTER ROLLER is 0.76 mm (0.030 in.).

To Adjust:

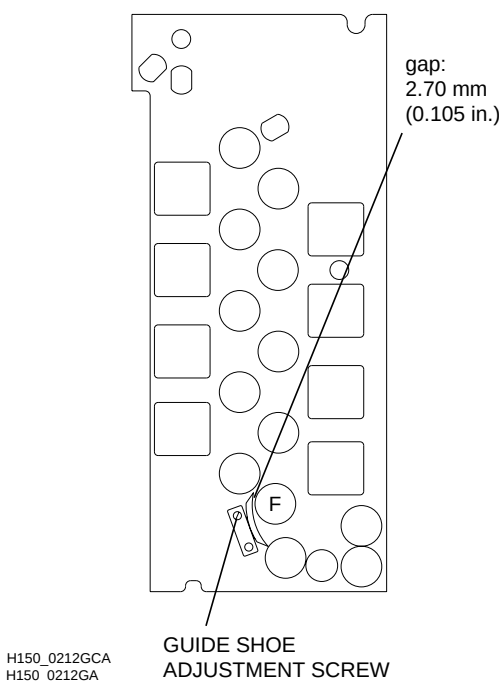
- [1]** Loosen the LOCKING NUT on the ADJUSTING SCREW for the DOWNPATH GUIDE SHOE.
- [2]** Insert the THICKNESS GAUGE TL-2372 between the DOWNPATH GUIDE SHOE and the MASTER ROLLER as close to the end of the DOWNPATH GUIDE SHOE as possible.
- [3]** Rotate the ADJUSTING SCREW until the distance between the DOWNPATH GUIDE SHOE and MASTER ROLLER is 0.76 mm (0.030 in.).
- [4]** Hold the ADJUSTING SCREW in position and tighten the LOCKING NUT.
- [5]** Do [Step 1](#) - [Step 4](#) for the nondrive side of the DOWNPATH GUIDE SHOE.
- [6]** Use THICKNESS GAUGE TL-2372 to check that the specification is correct.

Specification: The distance between the DOWNPATH GUIDE SHOE and the MASTER ROLLER is 0.76 mm (0.030 in.).

- [7]** Do [Step 4](#) - [Step 9](#) of the "To Check" procedure in reverse to assemble the DEVELOPER RACK.

GUIDE SHOE: DRYER RACK

Adjustment Specification



Purpose: Reduce or eliminate artifacts, scratches, and stub lines on film.

Specification: The distance between the “F” ROLLER and the GUIDE SHOE is 2.70 +/- 0.10 mm (0.105 +/- 0.005 in.).

Special Tools: THICKNESS GAUGE TL-2372

Prerequisites: None

Postrequisites: None

To Check:



Warning

Dangerous Voltage

- [1] De-energize the PROCESSOR.
- [2] Remove the DRYER RACK from the PROCESSOR.
- [3] Remove parts as necessary from the DRYER RACK to obtain access to the ADJUSTMENT SCREW.
- [4] Remove ROLLERS and AIR TUBES as necessary to obtain access to the GUIDE SHOE and the “F” ROLLER.
- [5] Insert the THICKNESS GAUGE TL-2372 between the GUIDE SHOE and the “F” ROLLER.
- [6] Check that the specification is correct.

Specification: The distance between the “F” ROLLER and the GUIDE SHOE is 2.70 mm (0.105 in.) +/- 0.10 mm (0.005 in.).

To Adjust:

- [1] Loosen the ADJUSTMENT SCREW.
- [2] Rotate the ADJUSTMENT SCREW until the distance between the “F” ROLLER and the GUIDE SHOE is 2.70 mm (0.105 in.).
- [3] Hold the GUIDE SHOE against the THICKNESS GAUGE TL-2372 and tighten the ADJUSTMENT SCREW.

**Important**

The clearance along the length of the GUIDE SHOE and the ROLLER must be uniform.

- [4] Use THICKNESS GAUGE TL-2372 to check that the specification is correct.

Specification: The distance between the “F” ROLLER and the GUIDE SHOE is 2.70 +/- 0.10 mm (0.105 +/- 0.005 in.).

- [5] Check for correct operation of the DRYER RACK by running 35.0 x 43.0 cm (14 x 17 in.) films.

**Important**

Make the adjustments in small increments of approximately 0.10 mm (0.005 in.) to prevent scratching or stubbing of the film.

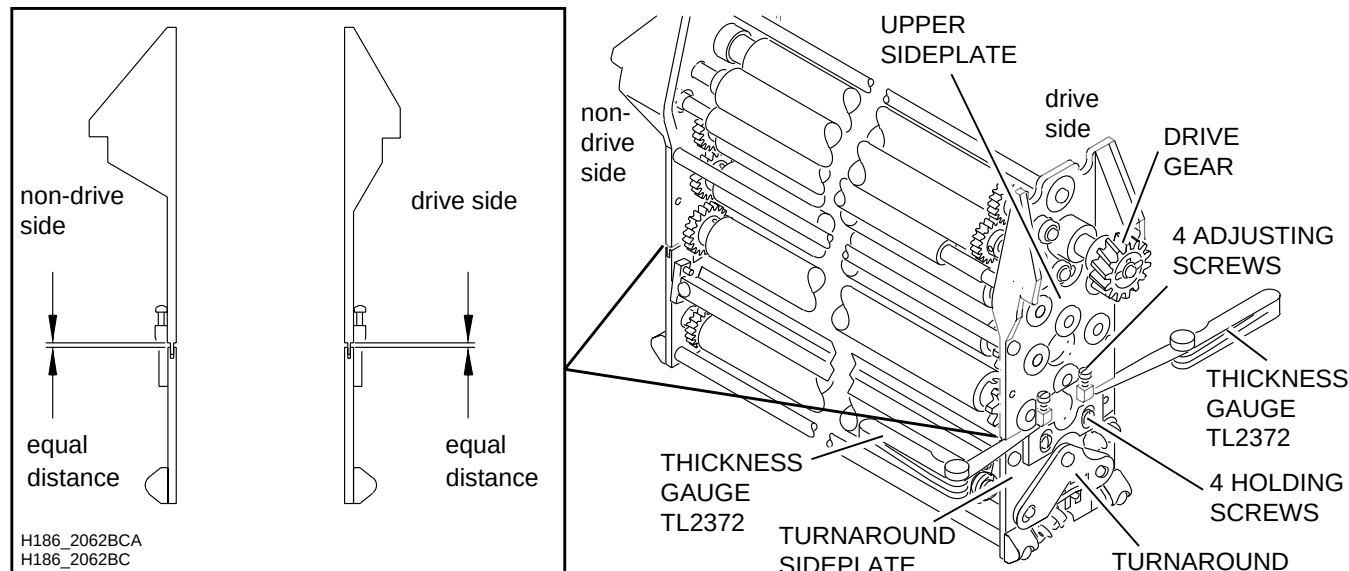
- [6] If the GUIDE SHOE causes scratches or stub lines on the film, do:

Scratches	Stub Lines
Increase the distance between the GUIDE SHOE and the “F” ROLLER.	Decrease the distance between the GUIDE SHOE and the “F” ROLLER

- [7] Do [Step 2](#) - [Step 4](#) of the “To Check” procedure in reverse to assemble the DRYER.

DRIVE CHAIN: DEVELOPER or FIXER RACK

Adjustment Specification



Purpose: Reduce or eliminate artifacts on film.

Specification: The distance between the UPPER SIDEPLATE and the TURNAROUND SIDEPLATE is the same as the distance between the 2 SIDEPLATES on the drive side of the RACK.

Special Tools:

- SPLASH GUARD Part no. 918947
- DRIP TRAY Part no. 459432
- THICKNESS GAUGE TL-2372

Prerequisites: None

Postrequisites: None

To Check:



Warning

Dangerous Voltage

[1] De-energize the PROCESSOR.



Important

To prevent the contamination of the processing solutions, use the SPLASH GUARD and DRIP TRAY when you remove the RACK from the PROCESSOR. [See "Removing the RACKS with Solutions in the TANKS" on Page 8.](#)

[2] Install the SPLASH GUARD on the PROCESSOR.

[3] Remove the DEVELOPER or FIXER RACK from the PROCESSOR, using the DRIP TRAY.

[4] Use THICKNESS GAUGE TL-2372 to check that the specification is correct.

Specification: The distance between the UPPER SIDEPLATE and the TURNAROUND SIDEPLATE is the same as the distance between the 2 SIDEPLATES on the drive side of the RACK.

To Adjust:

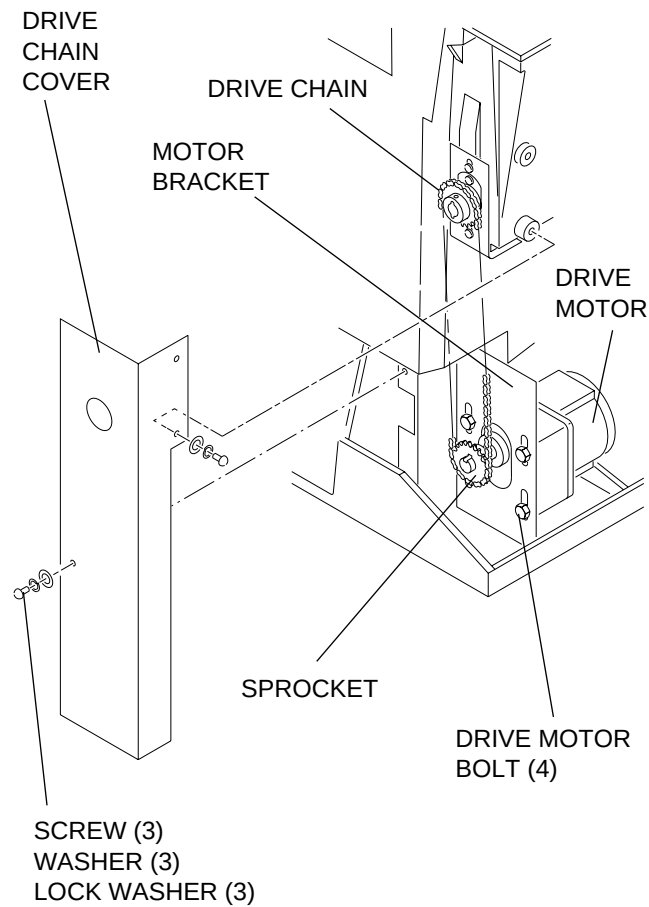
[1] Loosen the 2 HOLDING SCREWS at each end of the RACK approximately 1 full turn.

- [2] Hold the RACK vertically above the work surface and allow gravity to provide full tension on the TURNAROUND.
- [3] If necessary, turn the 2 ADJUSTING SCREWS on the drive side of the RACK counterclockwise until the SCREWS do not contact the TURNAROUND SIDEPLATE.
- [4] Rotate the DRIVE GEAR 6 full turns in the direction of film travel.
- [5] Tighten the 2 HOLDING SCREWS on the drive side of the RACK.
- [6] Place the RACK vertically on a flat work surface.
- [7] Rotate the 2 ADJUSTING SCREWS on the drive side of the RACK clockwise until both SCREWS just touch the TURNAROUND SIDEPLATE on the drive side of the RACK.
- [8] Loosen the 2 HOLDING SCREWS on the drive side of the RACK approximately 1 full turn.
- [9] Rotate the 2 ADJUSTING SCREWS on the drive side of the RACK counterclockwise 1 full turn.
- [10] Tighten the 2 HOLDING SCREWS on the drive side of the RACK.
- [11] Rotate the 2 ADJUSTING SCREWS on the nondrive side of the RACK until the specification is correct.
- [12] Tighten the 2 HOLDING SCREWS on the nondrive side of the RACK.
- [13] Use THICKNESS GAUGE TL-2372 to check that the specification is correct.

Specification: The distance between the UPPER SIDEPLATE and the TURNAROUND SIDEPLATE is the same as the distance between the 2 SIDEPLATES on the drive side of the RACK.

DRIVE CHAIN: Main Drive

Adjustment Specification



H104_0593CCA
H104_0593CA

Purpose: Prevent excessive wear of the MOTOR, CHAIN, and BEARINGS.

Specification: 5 mm ($\frac{1}{4}$ in.) of deflection at the center of the DRIVE CHAIN.

Special Tools: None

Prerequisites: None

Postrequisites: None

To Check:



Warning

Dangerous Voltage

- [1] De-energize the PROCESSOR.
- [2] Remove the DRIVE CHAIN COVER.
- [3] Check that the specification is correct.

Specification: 5 mm ($\frac{1}{4}$ in.) of deflection at the center of the DRIVE CHAIN.

To Adjust:

- [1] Loosen the 4 DRIVE MOTOR BOLTS on the MOTOR BRACKET.
- [2] Press down on the DRIVE MOTOR to tighten the DRIVE CHAIN to allow 5 mm ($\frac{1}{4}$ in.) deflection at the center of the CHAIN.
- [3] Tighten the 4 DRIVE MOTOR BOLTS.
- [4] Check that the specification is correct.

Specification: You must have 5 mm ($\frac{1}{4}$ in.) of deflection at the center of the DRIVE CHAIN.



Warning

You must install all SAFETY COVERS which were removed for access.

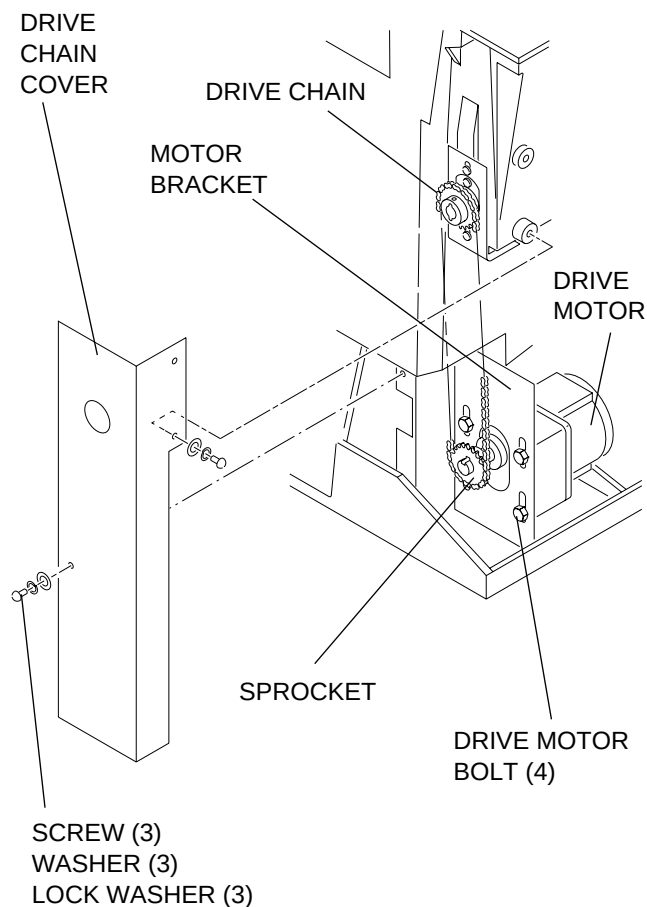
- [5] Install the DRIVE CHAIN COVER.

Section 3: Replacements

DRIVE CHAIN, SHAFT, MOTOR, WORM GEARS, and BEARINGS

Special Tools: PUNCH

To Remove:



H104_0593CCA
H104_0593CA



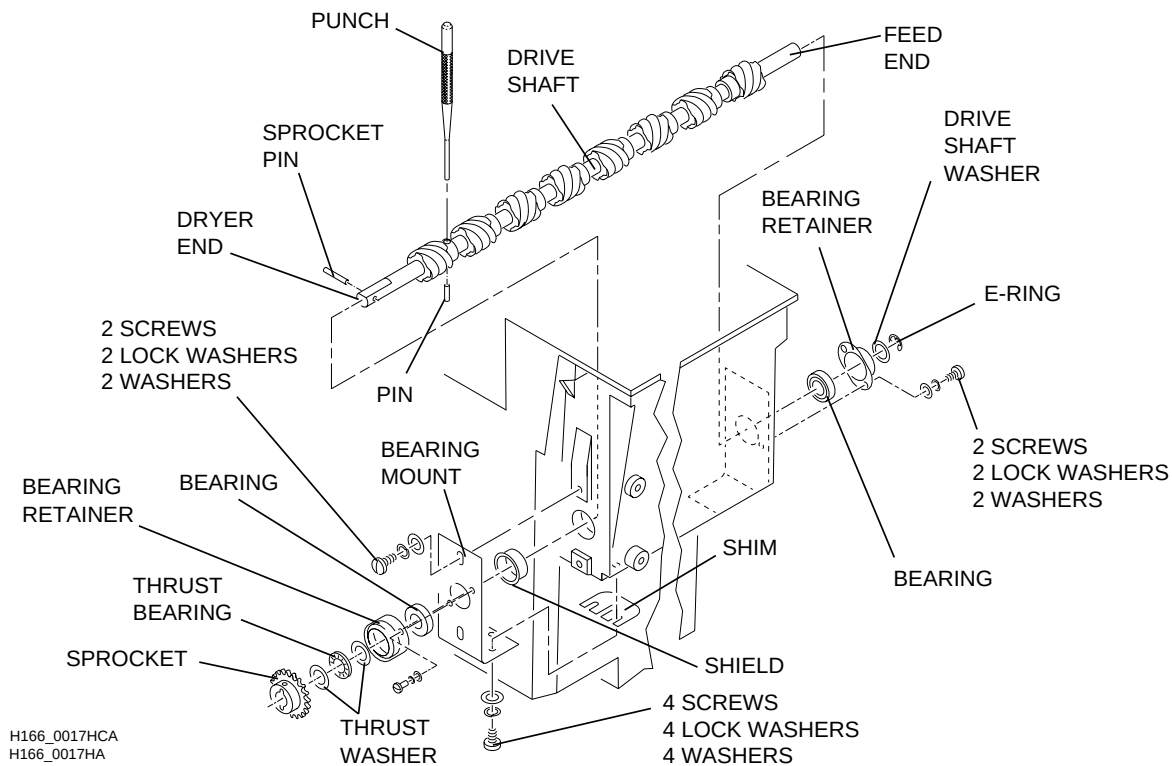
Warning

Dangerous Voltage

[1] De-energize the PROCESSOR.

[2] Remove:

- DRIVE CHAIN COVER
- DRIVE CHAIN
- DRIVE MOTOR if necessary



[3] Remove from the feed end of the DRIVE SHAFT:

- E-RING
- DRIVE SHAFT WASHER - quantity may vary
- BEARING RETAINER and BEARING - if necessary

[4] For access to the SPROCKET PIN, move the DRIVE SHAFT toward the receive end of the PROCESSOR.

[5] Observe the quantity of shims that you remove in [Step 6](#). You must install the same quantity of SHIMS when you assemble the DRIVE SHAFT.

[6] Remove from the dryer end of the DRIVE SHAFT:

- SPROCKET PIN
- SPROCKET
- 2 THRUST WASHERS
- THRUST BEARING
- BEARING RETAINER
- BEARING
- BEARING MOUNT
- all SHIMS
- SHIELD

[7] Remove the DRIVE SHAFT by slowly pulling it toward the dryer end of the PROCESSOR.

[8] Check the directions of the WORM GEARS. You must install the WORM GEARS in the same direction.

[9] If necessary, remove any WORM GEARS from the DRIVE SHAFT that have wear. Use a PUNCH to remove the PIN from the WORM GEAR.

To Install:**Important**

- Install the same quantity of SHIMS that you removed in [Step 6](#).
- The DRIVE SHAFT must have minimum play from side to side. Install the correct quantity of WASHERS.

[1] Do the “To Remove:” procedure in reverse.

[2] Adjust the tension on the DRIVE CHAIN. [See “DRIVE CHAIN: Main Drive” on Page 21.](#)

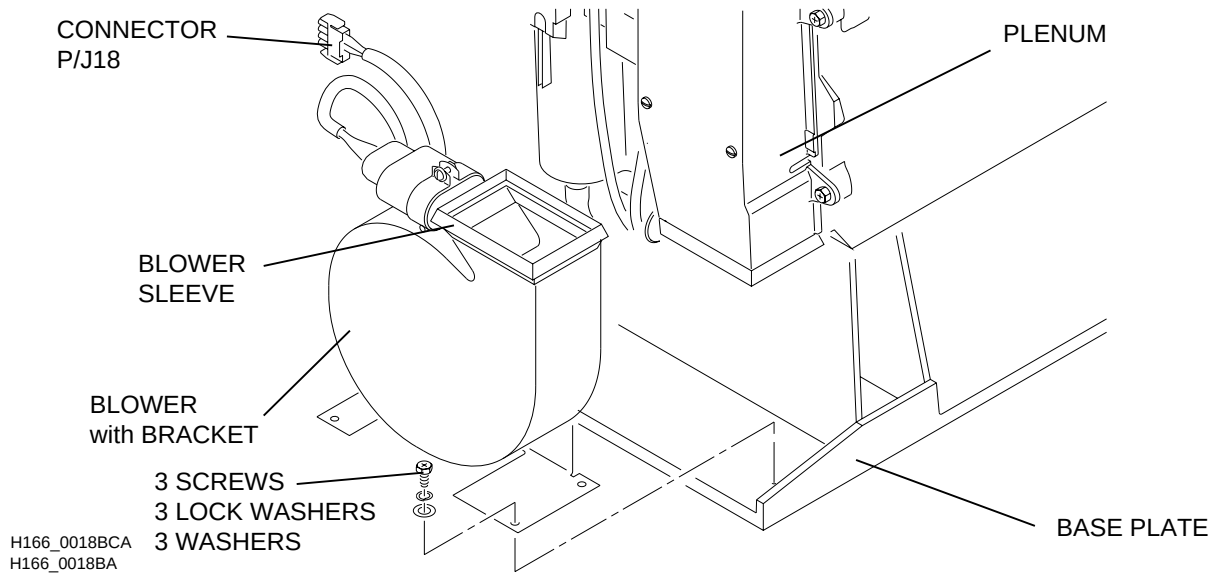
**Warning**

You must install all SAFETY COVERS which were removed for access.

[3] Install the DRIVE CHAIN COVER.

BLOWER B1

To Remove:



Warning

Dangerous Voltage

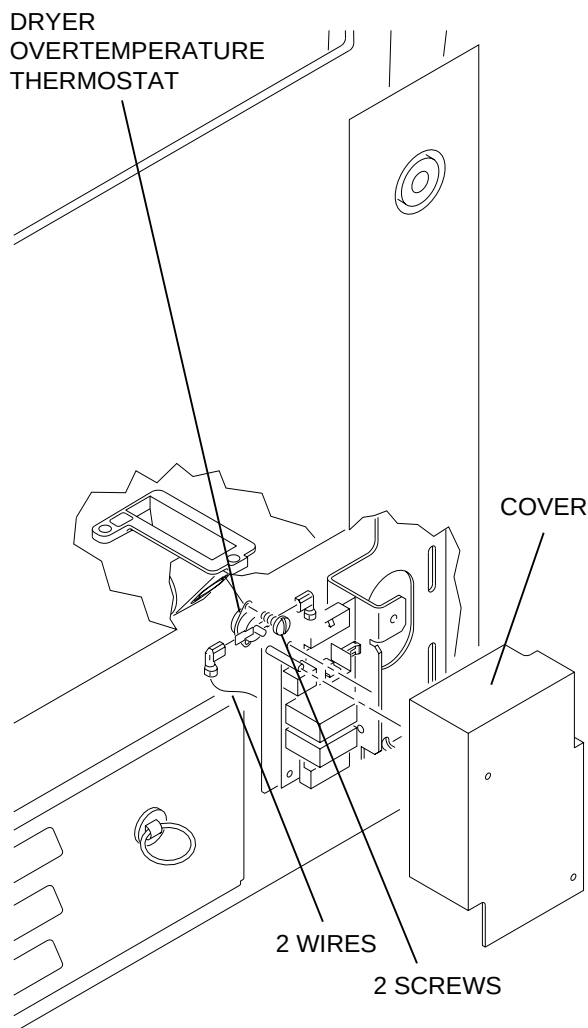
- [1] De-energize the PROCESSOR.
- [2] Disconnect CONNECTOR P/J18.
- [3] Remove:
 - 3 SCREWS
 - 3 LOCK WASHERS
 - 3 WASHERS
 - BLOWER with BRACKET

To Install:

- [1] Transfer the BLOWER SLEEVE from the existing BLOWER to the new BLOWER.
- [2] Install the new BLOWER.

DRYER OVER-TEMPERATURE THERMOSTAT

To Remove:



Warning

- Dangerous Voltage
- The DRYER OVER-TEMPERATURE THERMOSTAT automatically resets after an over-temperature condition.

[1] De-energize the PROCESSOR.

[2] Disconnect the 2 WIRES.

[3] Remove:

- 2 SCREWS
- COVER
- DRYER OVER-TEMPERATURE THERMOSTAT

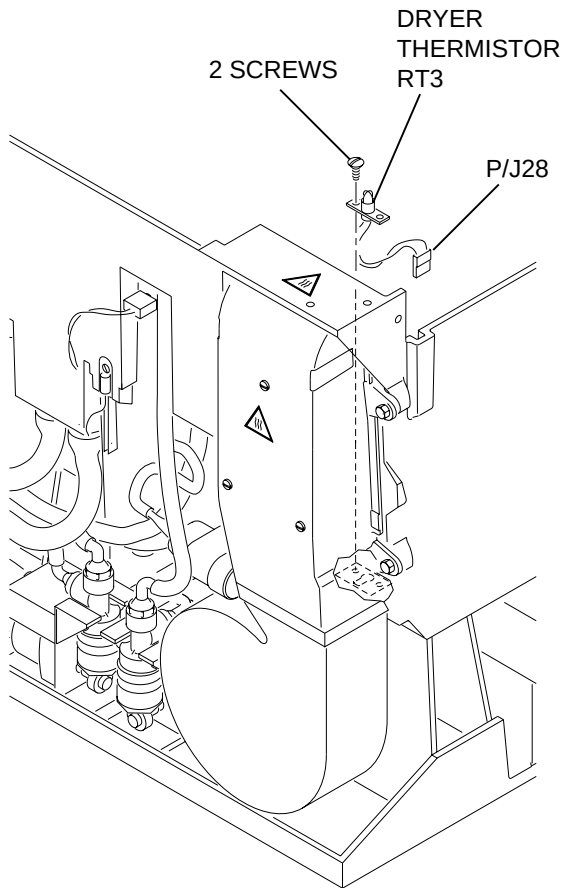
H166_0023CCA
H166_0023CA

To Install:

[1] Do the "To Remove:" procedure in reverse.

DRYER THERMISTOR RT3

To Remove:



Warning

Dangerous Voltage

- [1] De-energize the PROCESSOR.
- [2] Remove the DRYER RACK.
- [3] Disconnect CONNECTOR P/J28.
- [4] Remove:
 - 2 SCREWS
 - DRYER THERMISTOR RT3

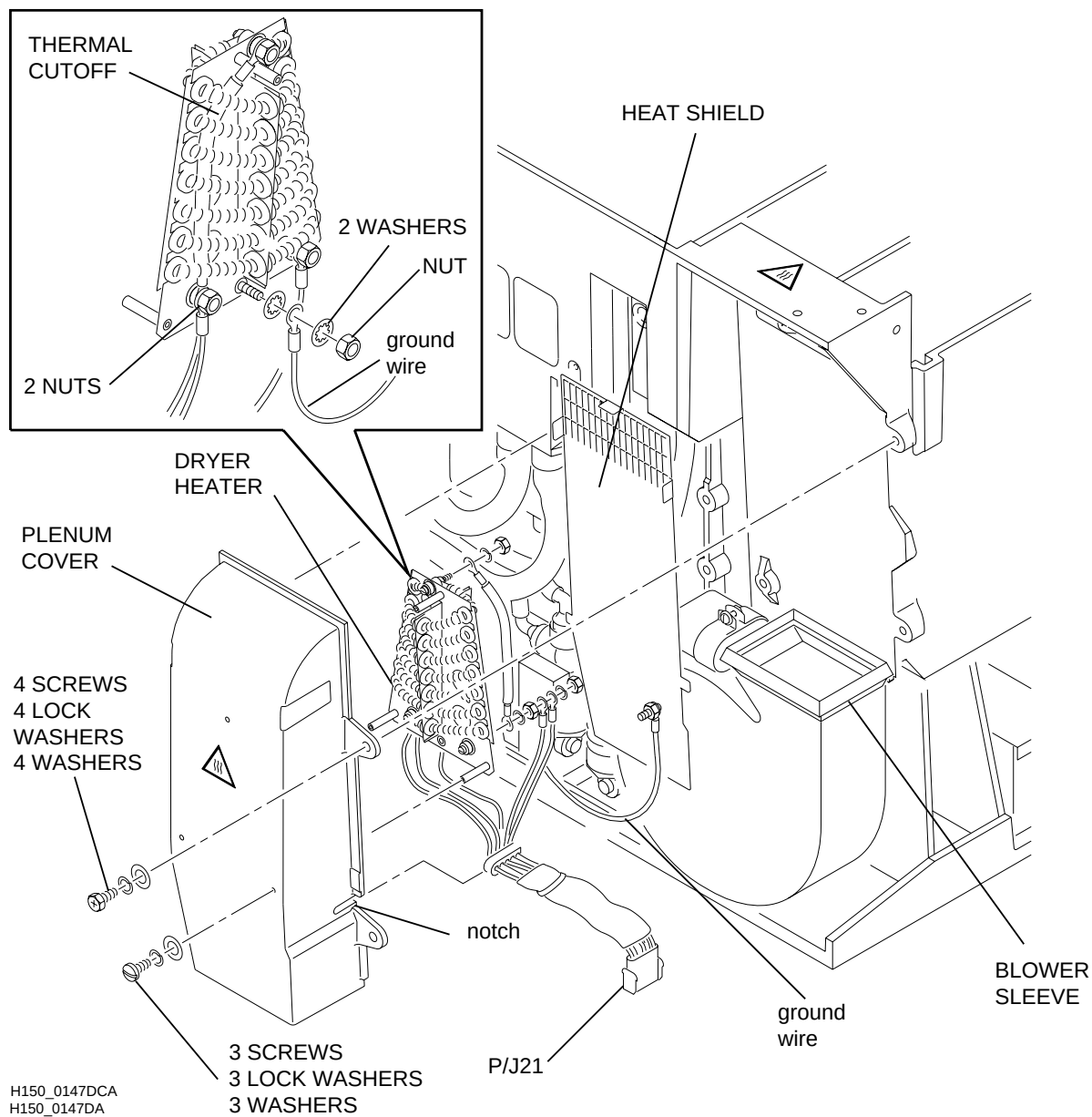
H150_0148CCA
H150_0148CA

To Install:

- [1] Do the "To Remove:" procedure in reverse.

THERMAL CUTOFF

To Remove:



Warning

- The PLENUM COVER may be hot. Allow it to cool before you remove the DRYER HEATER.
- Dangerous Voltage

[1] De-energize the PROCESSOR.

[2] Remove:

- 4 SCREWS, 4 LOCK WASHERS, 4 WASHERS
- PLENUM COVER
- 3 SCREWS, 3 LOCK WASHERS, 3 WASHERS
- DRYER HEATER from PLENUM COVER
- NUT, 2 WASHERS, GROUND WIRE
- 2 NUTS
- THERMAL CUTOFF

To Install:

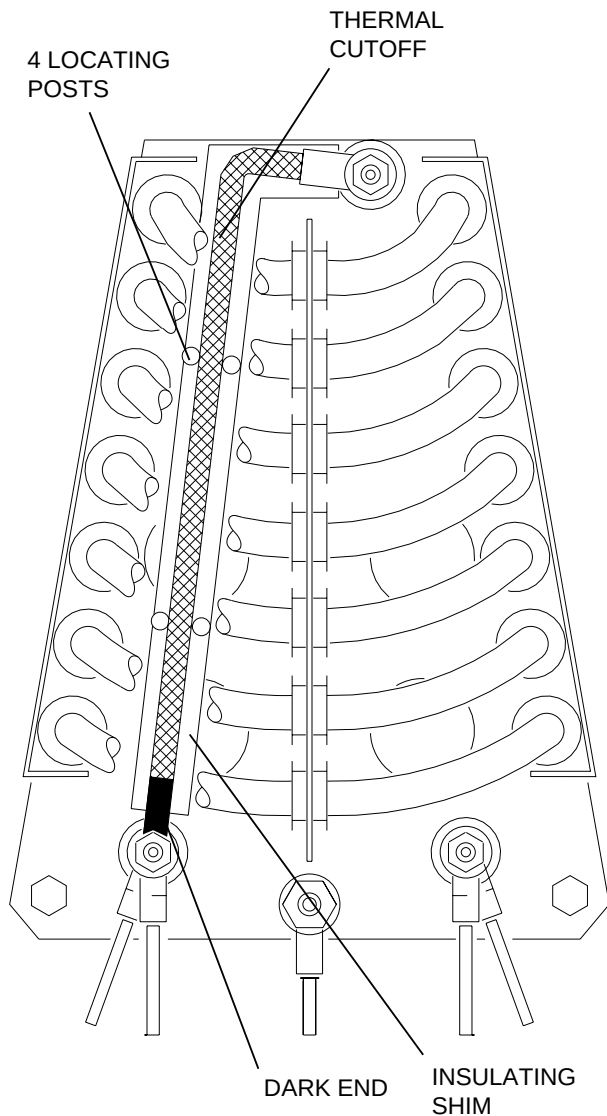


Caution

You must install the THERMAL CUTOFF correctly or damage may result.

[1] Install the THERMAL CUTOFF:

- with the dark end aligned with the bottom of the DRYER HEATER
- flush against the INSULATING SHIM
- between the 4 LOCATING POSTS



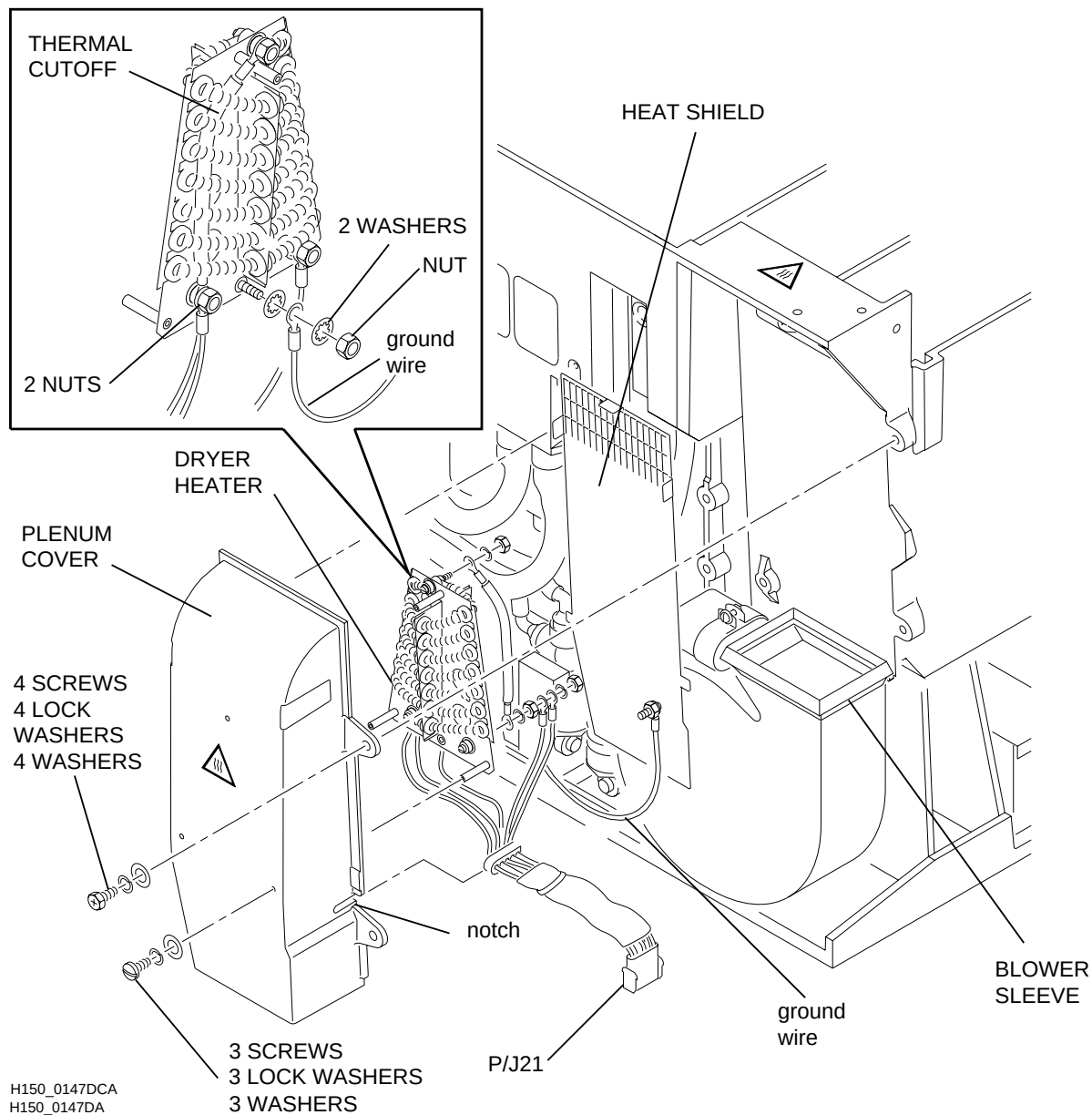
H150_0174CCA
H150_0174CA

DRYER HEATER HR3

Prerequisites:

- [1] Remove the THERMAL CUTOFF. See [Page 29](#).

To Remove:



- [1] Disconnect CONNECTOR P/J21.
- [2] Remove:
- GROUND WIRE from the HEAT SHIELD
 - DRYER HEATER

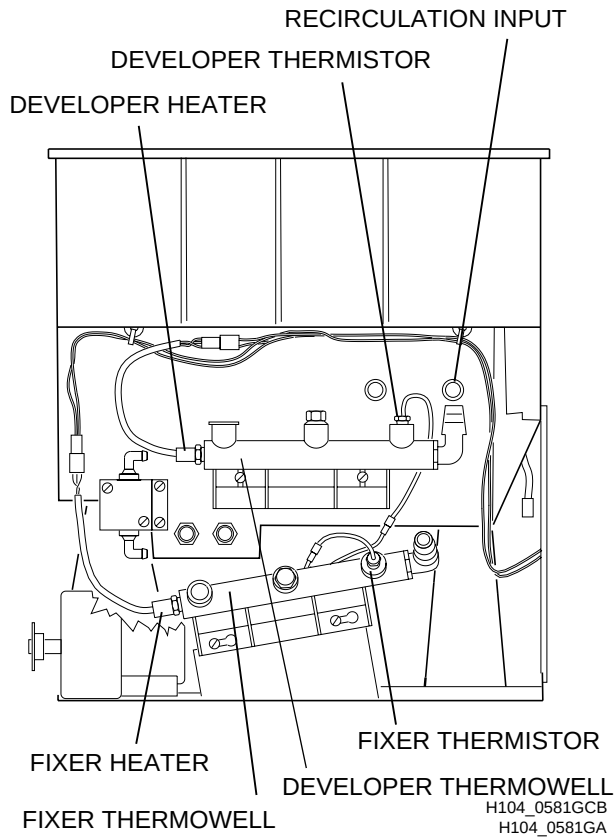
To Install:

- [1] Install the THERMAL CUTOFF.
- [2] Do the "To Remove:" procedure in reverse.

DEVELOPER or FIXER HEATER and THERMISTOR

Special Tools: SEALANT TL-3230

To Remove:



Warning
Dangerous Voltage

[1] De-energize the PROCESSOR.

Important

It is not necessary to remove the THERMOWELL to remove the HEATER or THERMISTOR.

[2] For access to the FIXER HEATER:

(a) Move the RECIRCULATION PUMP.

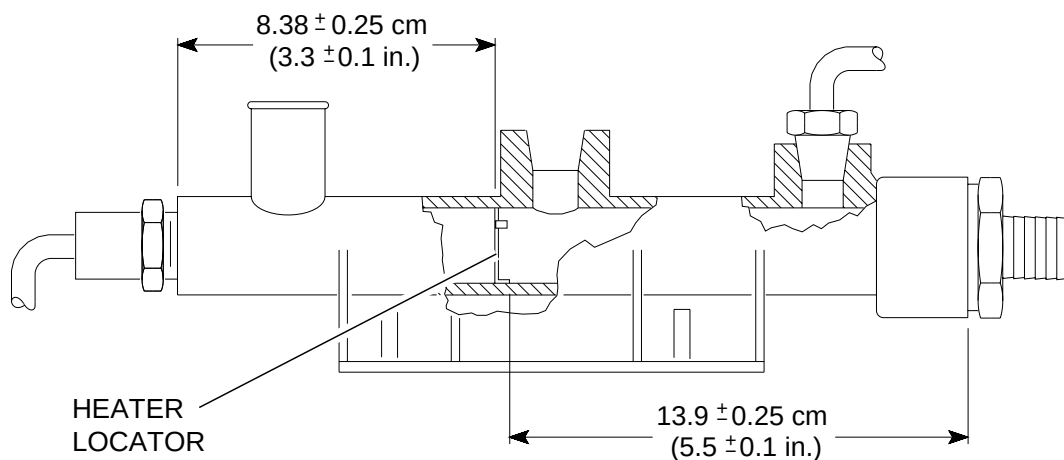
(b) Move the FIXER THERMOWELL.

(c) Before you remove the DEVELOPER HEATER or THERMISTOR, drain the DEVELOPER TANK to below the recirculation input opening. (The CLAMP TL-2170 will not work correctly on the short length of HOSES.)

[3] Disconnect the CONNECTOR for the HEATER or THERMISTOR.

[4] Remove the HEATER or THERMISTOR from the THERMOWELL.

To Install:



H104_0592BCA
H104_0592BA

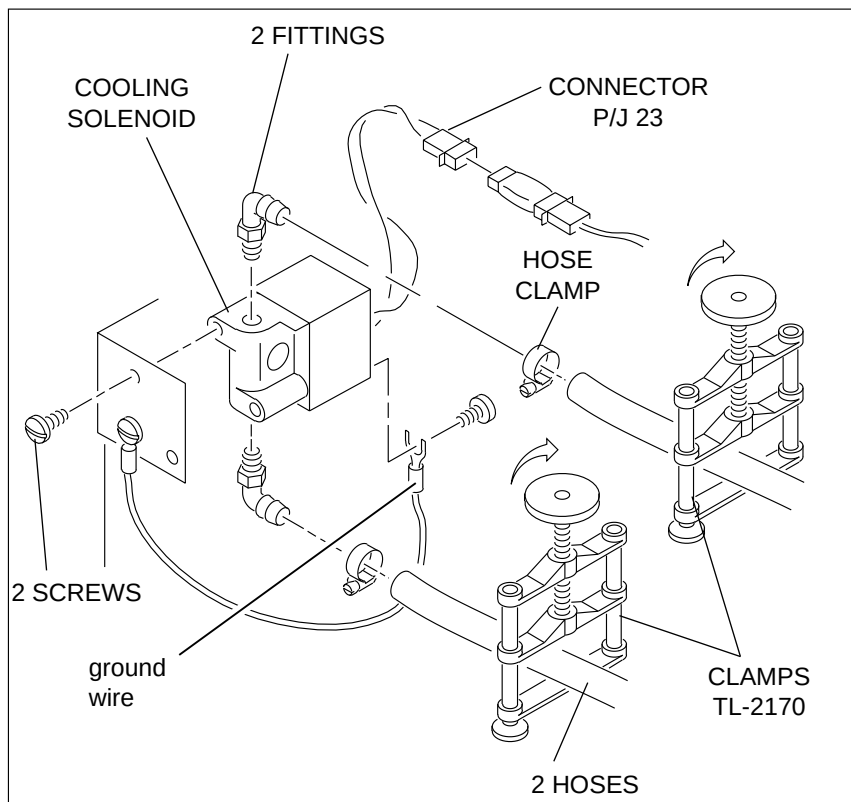
**Warning**

- Do not overtighten the parts when you install the HEATERS or THERMISTORS.
- Use only SEALANT TL-3230 when you install the HEATERS or THERMISTORS into the THERMOWELL. Other SEALANTS might weaken the plastic in the THERMOWELL. See the instructions packed with the SEALANT.
- You must install all SAFETY COVERS which were removed for access.
- When you install the HEATERS, check that the HEATER LOCATOR is positioned correctly inside the THERMOWELL.

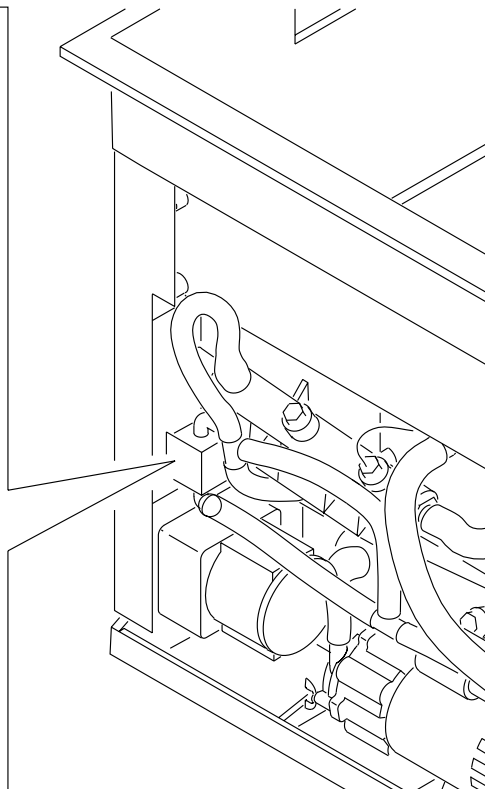
[1] Install the HEATER or THERMISTOR into the correct location in the THERMOWELL.

COOLING SOLENOID L2

To Remove:



H186_2060HCA
H186_2060HC



Warning

Dangerous Voltage

- [1] De-energize the PROCESSOR.
- [2] Loosen HOSE CLAMPS and remove TUBES from FITTINGS.
- [3] Disconnect CONNECTOR P/J 23, and remove screw for GROUND WIRE.
- [4] Remove the COOLING SOLENOID.

To Install:

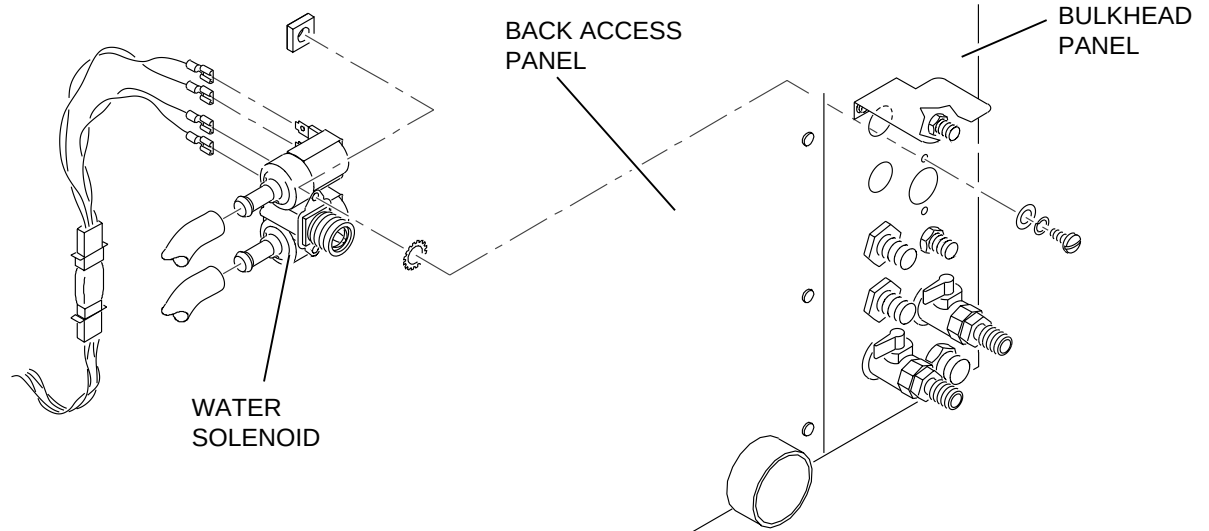


Caution

- You must install the COOLING SOLENOID correctly or damage will result.
 - Do not tighten the parts excessively.
- [1] Install the COOLING SOLENOID with the A at the top and the C at the bottom.
 - [2] Apply SEALANT TL-3230 on the threads before installing the FITTINGS.

WATER SOLENOID

To Remove:



H186_2108BCA
H186_2108BC



Warning

Dangerous Voltage

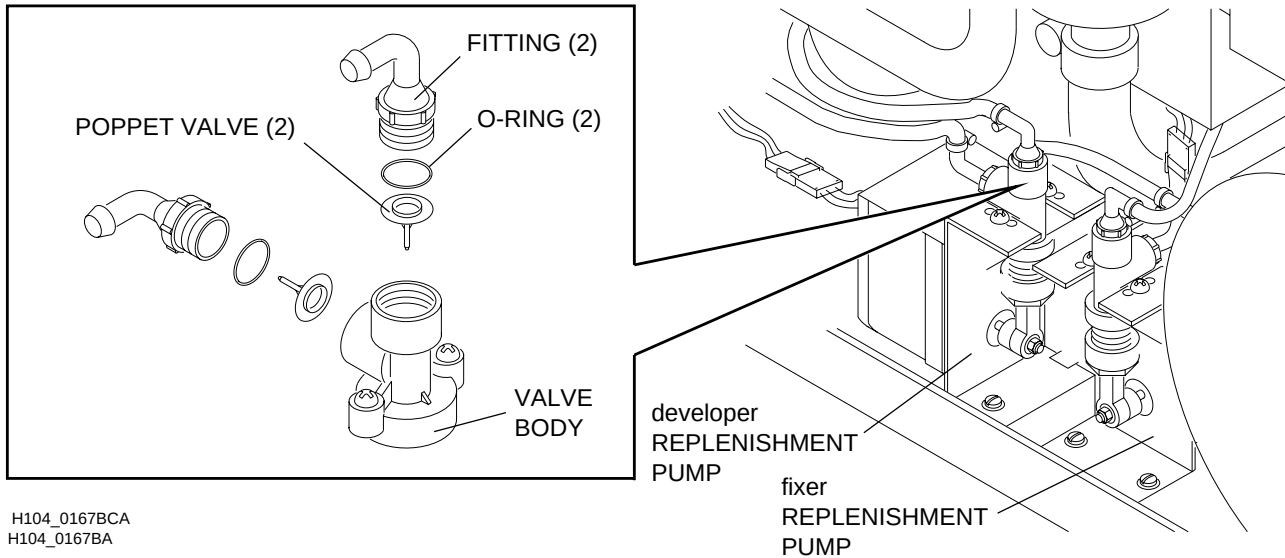
- [1] De-energize the PROCESSOR.
- [2] Turn off incoming water supply.
- [3] Remove:
 - BACK ACCESS PANEL
 - BULKHEAD PANEL
 - WATER SOLENOID

To Install:

- [1] Do the "To Remove:" procedure in reverse.

POPPET VALVES from the REPLENISHMENT PUMPS

To Remove:



Warning

Dangerous Voltage

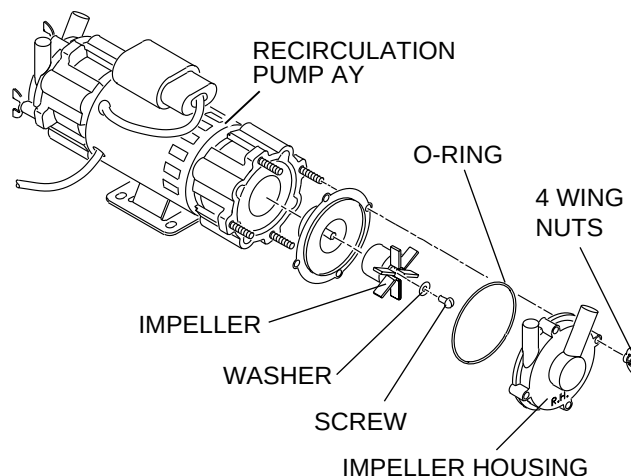
- [1] De-energize the PROCESSOR.
- [2] Observe the direction of the POPPET VALVES and the location of the O-RINGS.
- [3] Remove:
 - REPLENISHMENT PUMP
 - FITTINGS
 - O-RINGS
 - POPPET VALVES

To Install:

- [1] Do the "To Remove:" procedure in reverse.

IMPELLER HOUSING and IMPELLER: RECIRCULATION PUMPS

To Remove:



H186_2107ACA
H186_2107AC



Warning

Dangerous voltage.

- [1] De-energize the PROCESSOR.



Important

Use this procedure for removing the IMPELLER HOUSING from the DEVELOPER RECIRCULATION PUMP or for removing the IMPELLER HOUSING from the FIXER RECIRCULATION PUMP.

- [2] Using HOSE CLAMP TL-2170, clamp all HOSES.
- [3] Observe the direction of the IMPELLER HOUSINGS and the location of the O-RINGS.
- [4] Remove:
- RECIRCULATION PUMP
 - 4 WING NUTS
 - IMPELLER HOUSING
 - O-RING
 - SCREW
 - WASHER
 - IMPELLER

To Install:



Caution

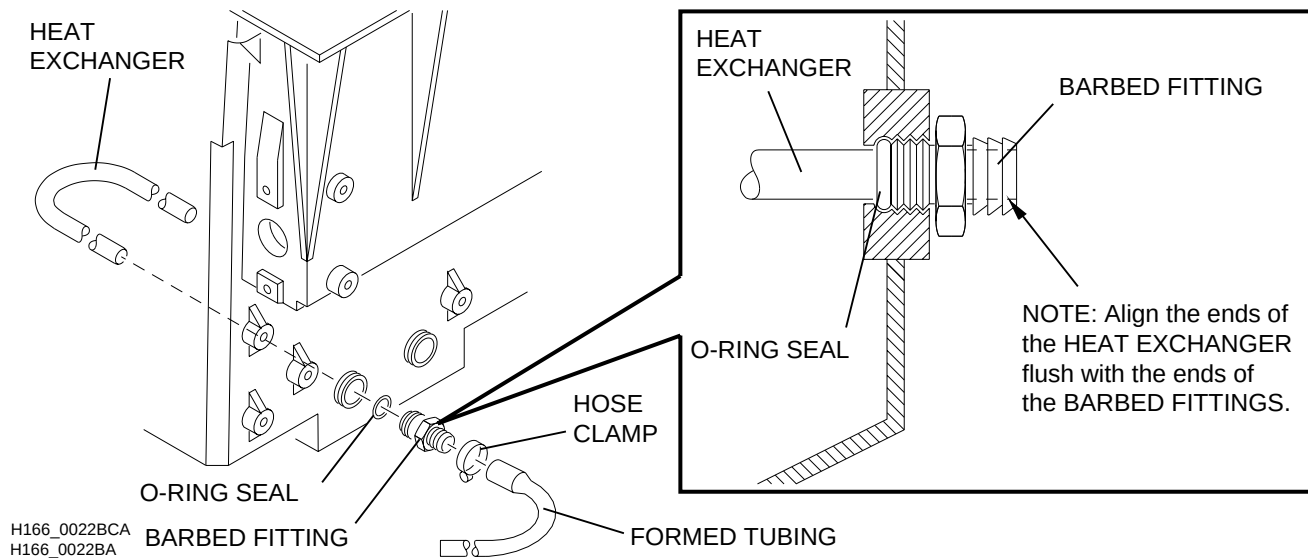
To prevent contamination:

- Do not interchange the developer and fixer IMPELLERS.
- Do not interchange the developer and fixer IMPELLER HOUSINGS.

- [1] Observe the direction of the IMPELLER HOUSINGS and the location of the O-RINGS.
- [2] Check the O-RING for wear. If necessary, install a new O-RING.
- [3] Check that the O-RING seats correctly.

HEAT EXCHANGER or BARBED FITTINGS

To Remove:



Warning

Dangerous Voltage

- [1] De-energize the PROCESSOR.
- [2] Loosen HOSE CLAMP and remove FORMED TUBING from BARBED FITTING.
- [3] Remove BARBED FITTING from TANK.
- [4] Remove the HEAT EXCHANGER.

To Install:

- [1] Install new O-RING SEALS on the HEAT EXCHANGER. Do not use the O-RING SEALS again.



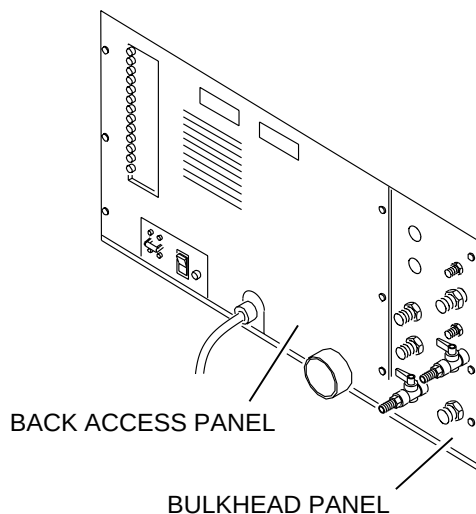
Important

Do not overtighten the BARBED FITTINGS.

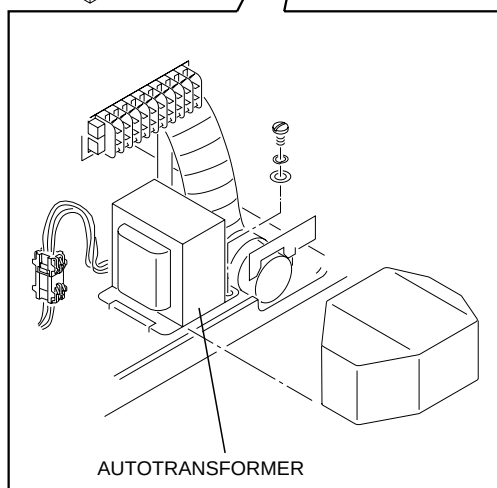
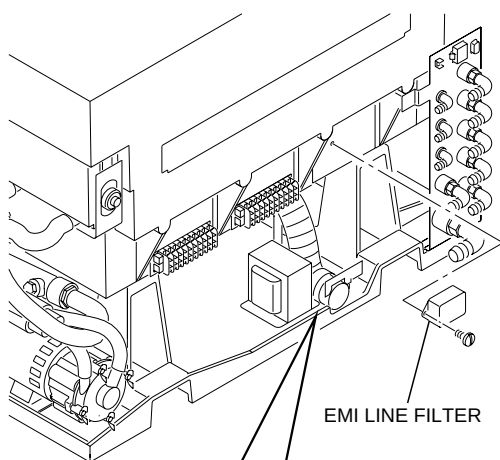
- [2] Install the HEAT EXCHANGER into the BARBED FITTING, aligning the ends of the HEAT EXCHANGER with the ends of the BARBED FITTINGS. Tighten the BARBED FITTING.
- [3] Install the TUBING on the BARBED FITTING, and tighten the HOSE CLAMPS.

AUTOTRANSFORMER T1 or EMI LINE FILTER

To Remove:



H186_1001ACE
H186_1001AC



H104_0580CCA
H104_0580CA



Warning

Dangerous Voltage

- [1] De-energize the PROCESSOR.
- [2] Remove:
 - BACK ACCESS PANEL
 - BULKHEAD PANEL
- [3] For better access to the HOSES, place the BULKHEAD PANEL inside the MULTILoader 7000.
- [4] Fully extend the PROCESSOR from the MULTILoader 7000.
- [5] Remove the FEED END SAFETY COVER. See [Page 6](#) for location of FEED END SAFETY COVER.
- [6] For easier access to the AUTOTRANSFORMER and LINE FILTER, push the PROCESSOR back into the MULTILoader 7000.
- [7] Working from the back of the MULTILoader 7000, remove the AUTOTRANSFORMER or the EMI LINE FILTER.
- [8] Record the position of the wires for the installation of the new part.

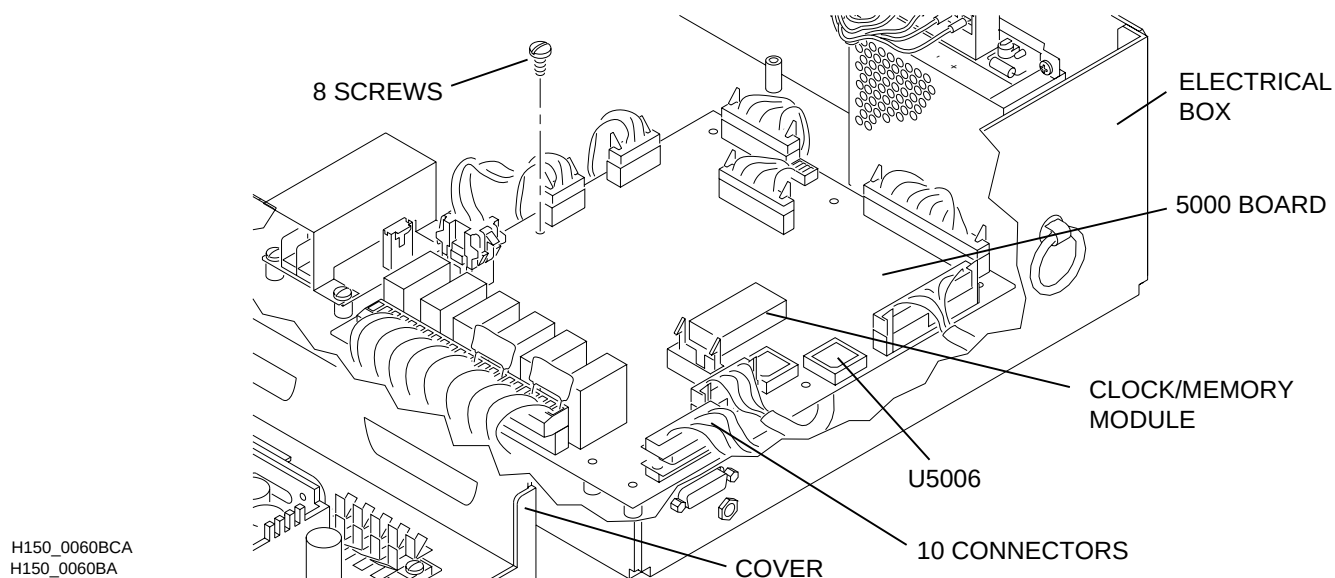
To Install:

- [1] Do the "To Remove:" procedure in reverse order.

5000 BOARD

Special Tools: EXTRACTION TOOL TL-4430

To Remove:



Warning

- Dangerous Voltage
- Possible damage from electrostatic discharge.

- [1] De-energize the PROCESSOR.
- [2] Pull out the ELECTRICAL BOX and open the COVER.
- [3] Disconnect the 10 CONNECTORS from the 5000 BOARD.
- [4] Remove:
 - 8 SCREWS
 - 5000 BOARD
 - CLOCK/MEMORY MODULE from the 5000 BOARD

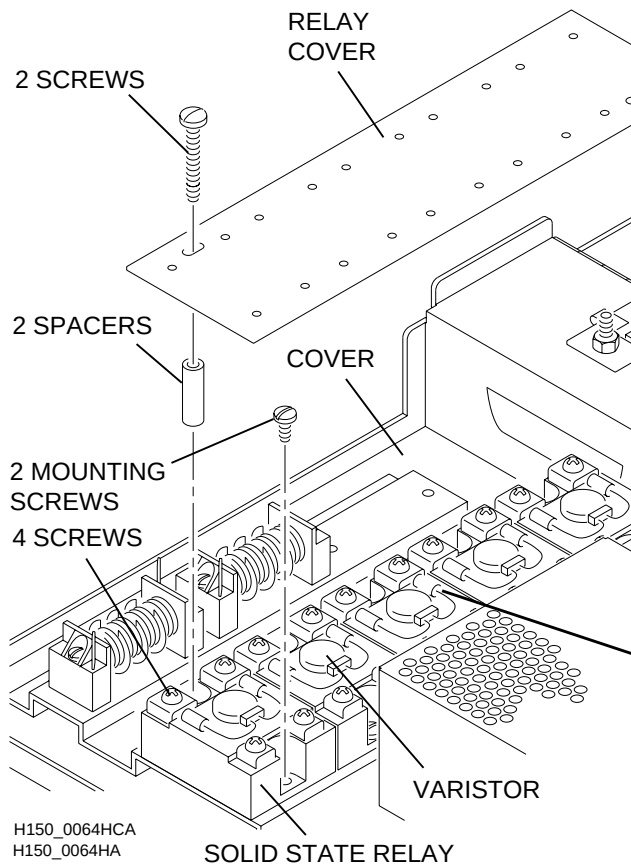
To Install:

- [1] Install the CLOCK/MEMORY MODULE on the new 5000 BOARD.
- [2] Install:
 - 5000 BOARD into the ELECTRICAL BOX
 - 8 SCREWS
 - 10 CONNECTORS
- [3] Assemble the PROCESSOR.
- [4] Download the "Operating Software".

SOLID STATE RELAY

Special Tools: THERMAL GREASE TL-2324

To Remove:



Warning

- Dangerous Voltage
- Possible damage from electrostatic discharge.

[1] De-energize the PROCESSOR.

[2] Pull out the ELECTRICAL BOX and open the COVER.

[3] Remove:

- 2 SCREWS
- 2 SPACERS
- RELAY COVER

[4] Record the 4 wire positions on the SOLID STATE RELAY (SSR) that you want to remove.

[5] Remove:

- 4 SCREWS
- 4 WIRES
- 2 MOUNTING SCREWS
- RELAY

[6] Clean off THERMAL GREASE from ELECTRICAL BOX COVER.

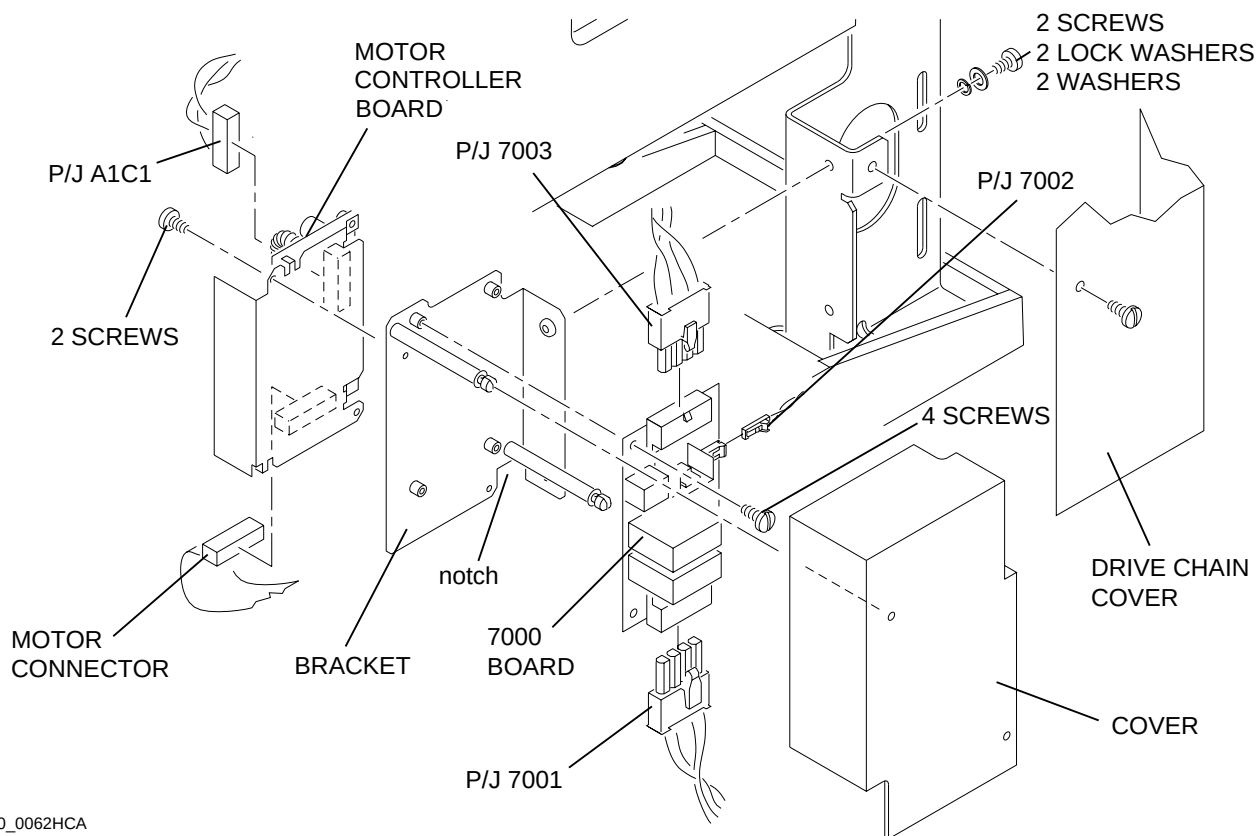
To Install:

[1] Apply THERMAL GREASE TL-2324 under the new SOLID STATE RELAY. Use a thin application, but cover the area under the SOLID STATE RELAY completely.

[2] Install a new METAL OXIDE VARISTOR (RV) on the new SOLID STATE RELAY.

7000 BOARD and MOTOR CONTROLLER A1 BOARD

To Remove:



H150_0062HCA
H150_0062HA



Warning

- Dangerous Voltage
- Possible damage from electrostatic discharge.

[1] De-energize the PROCESSOR.

[2] Remove:

- COVER protecting the BOARDS
- DRIVE CHAIN COVER
- BRACKET with the 7000 and MOTOR CONTROLLER BOARDS

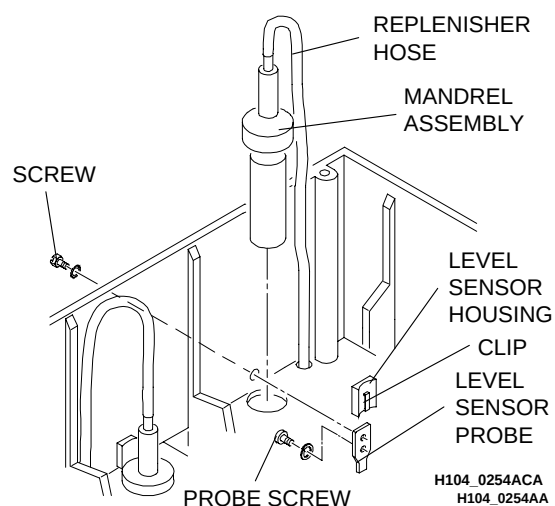
[3] Remove the 7000 or MOTOR CONTROLLER A1 BOARD.

To Install:

- [1] When you install the new BOARDS and the BRACKET, route the wires from CONNECTORS 7001 and 7002 through the notch in the BRACKET.

LEVEL SENSOR HOUSING and the LEVEL SENSOR PROBE

To Remove:



Warning

Dangerous Voltage

[1] De-energize the PROCESSOR.



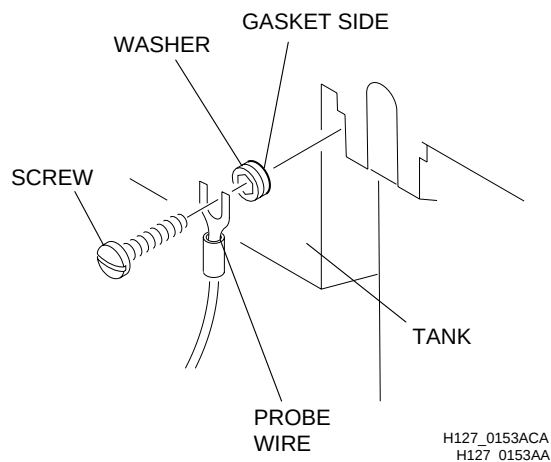
Warning

- Corrosion deposits on the LEVEL SENSOR parts may prevent the level sense circuit from operating correctly. Clean or replace parts as necessary.
- Possible damage from electrostatic discharge.

[2] Remove:

- 2 SCREWS
- LEVEL SENSOR HOUSING
- LEVEL SENSOR PROBE

To Install:



[1] When you install the new part, check that the PROBE WIRE is correctly attached to the SCREW and WASHER. Install the GASKET SIDE of the WASHER against the TANK.

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HEALTH IMAGING